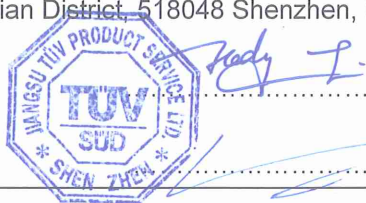


TEST REPORT IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1:2006 Information technology equipment – Safety – Part 1: General requirements	
Report Reference No.	68.220.11.149.01
Date of issue	2011-11-04
Total number of pages	42
CB/CCA Testing Laboratory	Jiangsu TÜV Product Service Ltd. Shenzhen Branch
Address	6/F, H Hall, Century Craftwork Culture Square, No. 4001, Fuqiang Road, Futian District, 518048 Shenzhen, CHINA
Applicant's name	Huawei Technologies Co., Ltd.
Address	Administration Building, Huawei Base, Bantian, Longgang District, 518129 Shenzhen, People's Republic of China
Manufacturer's name	Huawei Technologies Co., Ltd.
Address	Administration Building, Huawei Base, Bantian, Longgang District, 518129 Shenzhen, People's Republic of China
Factory's name	Huawei Technologies Co., Ltd.
Address	Administration Building, Huawei Base, Bantian, Longgang District, 518129 Shenzhen, People's Republic of China
Test specification:	
Standard	☐ IEC 60950-1:2005 (2nd Edition) and/or ☒ EN 60950-1:2006+A11:2009
Test procedure	Type test
Non-standard test method	N/A
Test Report Form No.	IECEN60950_1C
Test Report Form(s) Originator	SGS Fimko Ltd
Master TRF	Dated 2007-06
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Test item description..... : Remote Radio Unit of GSM Distributed Base Station	
Trade Mark HUAWEI	
Manufacturer..... Same as applicant	
Model/Type reference..... RRU3004	
Ratings..... -48VDC, 7.0A	
Testing procedure and testing location:	
☒ CB/CCA Testing Laboratory:	
Testing location/ address.....: Jiangsu TÜV Product Service Ltd. Shenzhen Branch 6/F, H Hall, Century Craftwork Culture Square, No. 4001, Fuqiang Road, Futian District, 518048 Shenzhen, CHINA	
Tested by (name + signature).....: Hedy Li	
Approved by (+ signature): Sally Zhou	
	
Summary of testing:	
Tests performed (name of test and test clause): The submitted samples were found to comply with the requirements of: - EN 60950-1:2006+A11:2009	Testing location: Jiangsu TÜV Product Service Ltd. Shenzhen Branch 6/F, H Hall, Century Craftwork Culture Square, No. 4001, Fuqiang Road, Futian District, 518048 Shenzhen, CHINA
Summary of compliance with National Differences:	
The following group and/or national deviations were considered: Austria, Belgium, Canada, Switzerland, Czech Republic, Germany, Denmark, Spain, Finland, France, United Kingdom, Hungary, Italy, Korea, Netherlands, Norway, Poland, Sweden, Slovenia, Slovakia and United States of America.	
Copy of marking plate:	
RRU3004 电源额定值 POWER RATING: - 48 V; 7.0 A 无线电发射设备型号核准证 CMIIT ID: CE 0168  1类激光产品 CLASS 1 LASER PRODUCT   华为技术有限公司 HUAWEI TECHNOLOGIES CO., LTD.中国制造 MADE IN CHINA	



Test item particulars	
Equipment mobility	☒ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains	☐ pluggable equipment ☐ type A ☐ type B ☒ permanent connection ☐ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition	☒ continuous ☐ rated operating / resting time:
Access location	☐ operator accessible ☒ restricted access location
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values	-36 to -57VDC
Tested for IT power systems	☐ Yes ☒ No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	☐ Class I ☐ Class II ☐ Class III ☒ Not classified
Considered current rating (A)	See page 2
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	IP55
Altitude during operation (m)	3000
Altitude of test laboratory (m)	<500
Mass of equipment (kg)	17
Possible test case verdicts:	
- test case does not apply to the test object.....	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	2011-10-28
Date(s) of performance of tests	2011-10-28 to 2011-11-04
General remarks:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Note: This TRF includes EN Group Differences together with National Differences and Special National Conditions, if any. All Differences are located in the Appendix to the main body of this TRF. Throughout this report a point is used as the decimal separator.	



General product information:

The EUT operates in 1800MHz RF working frequency and 900MHz RF working frequency, and all TNV-1 circuits are permanently connected to earth.

The equipment shall be supplied by external SELV circuits. The input tolerance of the equipment declared by the manufacturer is -36VDC to -57VDC. Reinforced insulation or double insulation must be provided to isolate DC source from AC mains supply.

The maximum operating temperature is 50°C.

Class 1 laser provided inside the equipment.

Unless otherwise stated, all tests performed on 1800MHz RF working frequency with maximum power consumption as the most severe condition.

Attachments:

Attachment No. 1: 14 pages of European Group Differences and National Differences according to EN 60950-1:2006+A11:2009.

Attachment No. 2: 1 page of cover page and 34 pages of National and Group Differences for IEC 60950-1:2005, Second Edition as per CB Bulletin.

Attachment No. 3: 1 page of cover page and 9 pages of Australia National Differences for IEC 60950-1 2nd Edition (2005) as per CB Bulletin and AS/NZS 60950.1 – 2011.

Attachment No. 4: 1 page of cover page and 15 pages of Ukraine, China and Japan National Differences for IEC 60950 3rd as per CB Bulletin 112A (2006).

Attachment No. 5: 1 page of cover page and 18 pages of test report according to EN 60950-22:2006+A11: 2008.

Attachment No. 6: 1 page of cover page and 5 pages of photo documentation.

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		
1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components not covered by IEC standards, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950.	P
1.5.3	Thermal controls	No thermal controls.	N/A
1.5.4	Transformers	Parts of approved DC/DC converter	N/A
1.5.5	Interconnecting cables	No interconnecting cables.	N/A
1.5.6	Capacitors bridging insulation		N/A
1.5.7	Resistors bridging insulation		P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	Functional insulation.	P
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors		N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	Power interface		P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6.1	AC power distribution systems		N/A
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	Not hand-held equipment.	N/A
1.6.4	Neutral conductor		N/A
1.7	Marking and instructions		P
1.7.1	Power rating		P
	Rated voltage(s) or voltage range(s) (V)	-48V	P
	Symbol for nature of supply, for d.c. only	==	P
	Rated frequency or rated frequency range (Hz)		N/A
	Rated current (mA or A)	7.0A	P
	Manufacturer's name or trade-mark or identification mark	HUAWEI	P
	Model identification or type reference	RRU3004	P
	Symbol for Class II equipment only		N/A
	Other markings and symbols		N/A
1.7.2	Safety instructions and marking	Operating/installing instructions provided.	P
1.7.2.1	General		P
1.7.2.2	Disconnect devices		P
1.7.2.3	Overcurrent protective device		P
1.7.2.4	IT power distribution systems		N/A
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles	Continuous operation.	N/A
1.7.4	Supply voltage adjustment	Single input voltage without adjustment.	N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No standard power supply outlet in the equipment.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	Fuse identifications are shown on PCB.	P
1.7.7	Wiring terminals		P
1.7.7.1	Protective earthing and bonding terminals	Protective earthing terminal which indicated by  is marked on enclosure.	P
1.7.7.2	Terminals for a.c. mains supply conductors		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.7.3	Terminals for d.c. mains supply conductors		P
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking		N/A
1.7.8.2	Colours		N/A
1.7.8.3	Symbols according to IEC 60417		N/A
1.7.8.4	Markings using figures		N/A
1.7.9	Isolation of multiple power sources		N/A
1.7.10	Thermostats and other regulating devices	No such devices.	N/A
1.7.11	Durability		P
1.7.12	Removable parts	Not on removable parts.	P
1.7.13	Replaceable batteries		N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations	The unit must be installed or used in the restricted access location, which stated in instruction.	P

2	PROTECTION FROM HAZARDS		
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas		P
2.1.1.1	Access to energized parts		P
	Test by inspection	No hazardous parts can be accessed.	P
	Test with test finger (Figure 2A)	No hazardous parts can be accessed.	P
	Test with test pin (Figure 2B)	No hazardous parts can be accessed.	P
	Test with test probe (Figure 2C)		N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring	No ELV wiring.	N/A
	Working voltage (V_{peak} or V_{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage circuit wiring.	N/A
2.1.1.5	Energy hazards	No energy hazards at operator access areas.	P
2.1.1.6	Manual controls	No such manual controls.	N/A
2.1.1.7	Discharge of capacitors in equipment		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Measured voltage (V); time-constant (s)..... :		—
2.1.1.8	Energy hazards – d.c. mains supply	No operator-accessible external point.	N/A
	a) Capacitor connected to the d.c. mains supply .. :		N/A
	b) Internal battery connected to the d.c. mains supply		N/A
2.1.1.9	Audio amplifiers	No such devices.	N/A
2.1.2	Protection in service access areas	Hazardous bare parts are guarded and unintentional contact with such parts is unlikely during service operations involving other parts for the equipment.	P
2.1.3	Protection in restricted access locations	Bare parts that present a hazardous voltage and energy level are located so that unintentional bridging by conductive materials that might be present is unlikely.	P

2.2	SELV circuits		P
2.2.1	General requirements		P
2.2.2	Voltages under normal conditions (V)	42.4V peak or 60V d.c. are not exceeded in SELV circuits.	P
2.2.3	Voltages under fault conditions (V)	Not exceed 42.4V peak or 60V d.c. for longer than 0.2s, and under limit of 71V peak or 120V d.c. within 0.2s.	P
2.2.4	Connection of SELV circuits to other circuits	Only intended to be connected with SELV circuits.	P

2.3	TNV circuits		P
2.3.1	Limits	Under the limit of SELV.	P
	Type of TNV circuits..... :	Antennas are considered as TNV-1 circuits.	—
2.3.2	Separation from other circuits and from accessible parts		P
2.3.2.1	General requirements		P
2.3.2.2	Protection by basic insulation		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.2.3	Protection by earthing	- The SELV circuits, TNV-1 circuits and accessible conductive parts are connected to protective earthing terminal. - A separate protective earthing terminal is provided, and the installation instruction specified the protective earthing terminal shall be permanently connected to earth.	P
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages	Reinforced insulation or double insulation must be provided to isolate DC source from AC mains supply, which stated in instruction.	N/A
	Insulation employed	Reinforced insulation or double insulation	—
2.3.4	Connection of TNV circuits to other circuits	Connected to TNV-1 circuits only.	P
	Insulation employed	Functional insulation.	—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		N/A
2.4.1	General requirements	No limited current circuits.	N/A
2.4.2	Limit values		N/A
	Frequency (Hz).....		—
	Measured current (mA)		—
	Measured voltage (V).....		—
	Measured circuit capacitance (nF or μ F)		—
2.4.3	Connection of limited current circuits to other circuits		N/A

2.5	Limited power sources		N/A
	a) Inherently limited output	No evaluated for limited power sources.	N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)		—
	Current rating of overcurrent protective device (A) ..		—

2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	All accessible metal parts, SELV circuits and TNV-1 circuits are reliably connected to protective earthing terminal.	P
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		P
2.6.3.1	General		P
2.6.3.2	Size of protective earthing conductors	No power supply cord provided.	N/A
	Rated current (A), cross-sectional area (mm ²), AWG	The minimum conductor size of protective earthing conductor is specified in installation instruction. 7.0A, Min. 1.0mm ²	—
2.6.3.3	Size of protective bonding conductors		P
	Rated current (A), cross-sectional area (mm ²), AWG	Comply with Cl. 2.6.3.4	—
	Protective current rating (A), cross-sectional area (mm ²), AWG.....	Protective current rating not exceed 16A	—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)	0.01Ω, 40A for 2mins.	P
2.6.3.5	Colour of insulation		N/A
2.6.4	Terminals		P
2.6.4.1	General		P
2.6.4.2	Protective earthing and bonding terminals		P
	Rated current (A), type, nominal thread diameter (mm).....	7.0A, screws type, 3.5mm min.	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		P
2.6.5	Integrity of protective earthing		P
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No such components.	P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.3	Disconnection of protective earth		P
2.6.5.4	Parts that can be removed by an operator	When installing the unit, always make the ground connection first and disconnect it last, which stated in installation instruction.	P
2.6.5.5	Parts removed during servicing		P
2.6.5.6	Corrosion resistance	See annex J	P
2.6.5.7	Screws for protective bonding	Screws for earthing connection engage at least two complete threads into metal.	P
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

2.7	Overcurrent and earth fault protection in primary circuits		N/A
2.7.1	Basic requirements	No primary circuits.	N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel		N/A

2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlocks.	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches and relays		N/A
2.8.7.1	Contact gaps (mm)		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Natural rubber, hygroscopic and materials containing asbestos not used as insulation.	P
2.9.2	Humidity conditioning		N/A
	Relative humidity (%), temperature (°C)		—
2.9.3	Grade of insulation	Functional insulation.	P
2.9.4	Separation from hazardous voltages		N/A
	Method(s) used	Reinforce insulation or double insulation must be provided to isolate DC source from the AC mains supply, which stated in instruction.	—

2.10	Clearances, creepage distances and distances through insulation		N/A
2.10.1	General	Only functional insulation provided inside the equipment.	N/A
2.10.1.1	Frequency		N/A
2.10.1.2	Pollution degrees		N/A
2.10.1.3	Reduced values for functional insulation		N/A
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage		N/A
2.10.2.1	General		N/A
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances		N/A
2.10.3.1	General		N/A
2.10.3.2	Mains transient voltages		N/A
	a) AC mains supply		N/A
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.3	Clearances in primary circuits		N/A
2.10.3.4	Clearances in secondary circuits		N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply		N/A
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances		N/A
2.10.4.1	General		N/A
2.10.4.2	Material group and comparative tracking index		N/A
	CTI tests.....		—
2.10.4.3	Minimum creepage distances		N/A
2.10.5	Solid insulation		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs).....		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage		N/A
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	c) Compliance with Annex U		N/A
	Two wires in contact inside wound component; angle between 45° and 90°		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A
2.10.6	Construction of printed boards		N/A
2.10.6.1	Uncoated printed boards		N/A
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs).....		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	WIRING, CONNECTIONS AND SUPPLY		
3.1	General		P
3.1.1	Current rating and overcurrent protection	Sufficiently rated wiring used.	P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.1.2	Protection against mechanical damage	Wire-ways smooth and free from sharp edges.	P
3.1.3	Securing of internal wiring	The wires are positioned in such a manner that prevents excessive strain, loosening of terminal connections and damage of conductor insulation.	P
3.1.4	Insulation of conductors		P
3.1.5	Beads and ceramic insulators	No beads and ceramic insulators.	N/A
3.1.6	Screws for electrical contact pressure	No screw made of insulation material. Screws for earthing connection engage at least two complete threads into metal plate.	P
3.1.7	Insulating materials in electrical connections	No such materials in electrical connections.	N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors	All termination of conductors are reliable secured.	P
	10 N pull test		P
3.1.10	Sleeving on wiring		N/A

3.2	Connection to a mains supply		P
3.2.1	Means of connection		P
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply	A set of terminals complied with Clause 3.3 is provided for permanently connection to supply.	P
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment	A set of terminals complied with Clause 3.3 is provided.	P
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords	No power supply cord provided.	N/A
3.2.5.1	AC power supply cords		N/A
	Type		—

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		N/A

3.3	Wiring terminals for connection of external conductors		P
3.3.1	Wiring terminals	Wiring terminals provided.	P
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals	Screws together with nuts and spring washers are used.	P
3.3.4	Conductor sizes to be connected		P
	Rated current (A), cord/cable type, cross-sectional area (mm ²)	7.0A, Min. 1.0mm ²	—
3.3.5	Wiring terminal sizes		P
	Rated current (A), type, nominal thread diameter (mm)	7.0A, Min. 3.5mm	—
3.3.6	Wiring terminal design		P
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		P
3.4.1	General requirement	A readily accessible disconnect device shall be incorporated in the building installation wiring, which stated in instruction.	P
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		P
3.4.4	Parts which remain energized		P
3.4.5	Switches in flexible cords		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.4.6	Number of poles - single-phase and d.c. equipment		P
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

3.5	Interconnection of equipment		P
3.5.1	General requirements		P
3.5.2	Types of interconnection circuits	SELV to SELV TNV-1 to TNV-1	P
3.5.3	ELV circuits as interconnection circuits	No ELV circuits.	N/A
3.5.4	Data ports for additional equipment		N/A

4	PHYSICAL REQUIREMENTS		
4.1	Stability		N/A
	Angle of 10°	The device must be fixed securely on the floor or other reliable objects, such as the walls and the mounting racks before operation, which stated in instruction.	N/A
	Test force (N)		N/A

4.2	Mechanical strength		P
4.2.1	General		P
4.2.2	Steady force test, 10 N		P
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		P
4.2.5	Impact test		P
	Fall test		P
	Swing test		P
4.2.6	Drop test; height (mm)		N/A
4.2.7	Stress relief test		N/A
4.2.8	Cathode ray tubes	No CRT.	N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps	No high pressure lamps.	N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.2.10	Wall or ceiling mounted equipment; force (N) :	510N	P
4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners rounded and smoothed.	P
4.3.2	Handles and manual controls; force (N) :	680N	P
4.3.3	Adjustable controls	No such controls.	N/A
4.3.4	Securing of parts	All parts secured properly.	P
4.3.5	Connection by plugs and sockets		N/A
4.3.6	Direct plug-in equipment		N/A
	Torque :		—
	Compliance with the relevant mains plug standard :		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids :	No flammable liquids.	N/A
	Quantity of liquid (l) :		N/A
	Flash point (°C) :		N/A
4.3.13	Radiation		P
4.3.13.1	General	Approved laser module used.	P
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) :		—
	Measured high-voltage (kV) :		—
	Measured focus voltage (kV) :		—
	CRT markings :		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification :		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N/A
4.3.13.5	Laser (including LEDs)	Approved laser module used. (see appended table 1.5.1)	P
	Laser class	Class 1	—
4.3.13.6	Other types		N/A
4.4	Protection against hazardous moving parts		N/A
4.4.1	General	No hazardous moving parts.	N/A
4.4.2	Protection in operator access areas		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.5	Thermal requirements		P
4.5.1	General		P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L		—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat		N/A
4.6	Openings in enclosures		P
4.6.1	Top and side openings		P
	Dimensions (mm)	No openings.	—
4.6.2	Bottoms of fire enclosures		P
	Construction of the bottom, dimensions (mm) ..	No openings.	—
4.6.3	Doors or covers in fire enclosures	No doors or covers.	N/A
4.6.4	Openings in transportable equipment	Not transportable equipment.	N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks).....		—

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	Use of materials with the required flammability classes.	P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure		P
4.7.2.1	Parts requiring a fire enclosure	The following parts require a fire enclosure: - Components in secondary circuits supplied by power sources which exceed the limits specified in 2.5 - Insulated wiring.	P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General		P
4.7.3.2	Materials for fire enclosures	Metal enclosure.	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	All internal components are rated V-2 or better or mounded on PCB rated V-0.	P
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		
5.1	Touch current and protective conductor current		N/A
5.1.1	General	DC input only.	N/A
5.1.2	Configuration of equipment under test (EUT)		N/A
5.1.2.1	Single connection to an a.c. mains supply		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		N/A
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.6	Test measurements		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA)...		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	(see appended table 5.2)	P

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors		N/A
5.3.3	Transformers		N/A
5.3.4	Functional insulation	Method c) used.	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE		N/A
5.3.7	Simulation of faults	(see appended table 5.3)	P
5.3.8	Unattended equipment		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests		P
5.3.9.2	After the tests		P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		P
6.1.1	Protection from hazardous voltages		P
6.1.2	Separation of the telecommunication network from earth		P
6.1.2.1	Requirements		N/A
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions	Permanently connected equipment.	P

6.2	Protection of equipment users from overvoltages on telecommunication networks		P
6.2.1	Separation requirements	All accessible metal parts, SELV circuits and TNV-1 circuits permanently earthed.	P
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A

6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)		—
	Current limiting method		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		
7.1	General	Not connected to cable distribution system.	N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples		—
	Wall thickness (mm)		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material		—
	Wall thickness (mm)		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

A.3.3	Compliance criterion		N/A
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B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		
B.1	General requirements		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		
	Position	Parts of approved DC/DC converter	—
	Manufacturer		—
	Type		—

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated values		—
	Method of protection		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings		N/A
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		
D.1	Measuring instrument		N/A
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		N/A
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed d.c. mains supplies		N/A
G.2.3	Unearthed d.c. mains supplies		N/A
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances		N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
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J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used	Enclosure: duralumin, Screws, nut and washer: stainless steel.	—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		N/A

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz)		—

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		
	a) Preferred climatic categories		N/A
	b) Maximum continuous voltage		N/A
	c) Pulse current		N/A
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		P
		See separate test report	—

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N/A
			—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		
V.1	Introduction		N/A
V.2	TN power distribution systems		N/A
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		N/A
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

EN 60950-1:2006 – CENELEC COMMON MODIFICATIONS						
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations					P
General	Delete all the “country” notes in the reference document according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6. 2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2					P
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.					N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC					P
1.7.2.1	Add the following NOTE: NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss					N/A

IEC/EN 60950-1															
Clause	Requirement + Test	Result - Remark	Verdict												
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		N/A												
2.7.2	This subclause has been declared 'void'.		N/A												
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A												
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: <table><tr><td> Up to and including 6</td><td></td><td>0,75^{a)}</td><td> </td></tr><tr><td> Over 6 up to and including 10</td><td>(0,75)^{b)}</td><td>1,0</td><td> </td></tr><tr><td> Over 10 up to and including 16</td><td>(1,0)^{c)}</td><td>1,5</td><td> </td></tr></table> In the conditions applicable to Table 3B delete the words "in some countries" in condition^{a)}. In NOTE 1, applicable to Table 3B, delete the second sentence.	Up to and including 6		0,75 ^{a)}		Over 6 up to and including 10	(0,75) ^{b)}	1,0		Over 10 up to and including 16	(1,0) ^{c)}	1,5			N/A
Up to and including 6		0,75 ^{a)}													
Over 6 up to and including 10	(0,75) ^{b)}	1,0													
Over 10 up to and including 16	(1,0) ^{c)}	1,5													
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: <table><tr><td> Over 10 up to and including 16</td><td> </td><td>1,5 to 2,5</td><td> </td><td>1,5 to 4</td><td> </td></tr></table> Delete the fifth line: conductor sizes for 13 to 16 A.	Over 10 up to and including 16		1,5 to 2,5		1,5 to 4			N/A						
Over 10 up to and including 16		1,5 to 2,5		1,5 to 4											
4.3.13.6	Add the following NOTE: NOTE Z1 Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		P												

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 μSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS		—
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ZB	SPECIAL NATIONAL CONDITIONS		
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.5.7.1	In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2.		N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"		N/A
1.7.5	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.		N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A

IEC/EN 60950-1																											
Clause	Requirement + Test	Result - Remark	Verdict																								
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.		P																								
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A																								
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A																								
3.2.1.1	In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: <table border="0"> <tr> <td>SEV 6532-2.1991</td><td>Plug Type 15</td><td>3P+N+PE</td><td>250/400 V, 10 A</td></tr> <tr> <td>SEV 6533-2.1991</td><td>Plug Type 11</td><td>L+N</td><td>250 V, 10 A</td></tr> <tr> <td>SEV 6534-2.1991</td><td>Plug Type 12</td><td>L+N+PE</td><td>250 V, 10 A</td></tr> </table> In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: <table border="0"> <tr> <td>SEV 5932-2.1998</td><td>Plug Type 25</td><td>3L+N+PE</td><td>230/400 V, 16 A</td></tr> <tr> <td>SEV 5933-2.1998</td><td>Plug Type 21</td><td>L+N</td><td>250 V, 16 A</td></tr> <tr> <td>SEV 5934-2.1998</td><td>Plug Type 23</td><td>L+N+PE</td><td>250 V, 16 A</td></tr> </table>	SEV 6532-2.1991	Plug Type 15	3P+N+PE	250/400 V, 10 A	SEV 6533-2.1991	Plug Type 11	L+N	250 V, 10 A	SEV 6534-2.1991	Plug Type 12	L+N+PE	250 V, 10 A	SEV 5932-2.1998	Plug Type 25	3L+N+PE	230/400 V, 16 A	SEV 5933-2.1998	Plug Type 21	L+N	250 V, 16 A	SEV 5934-2.1998	Plug Type 23	L+N+PE	250 V, 16 A		N/A
SEV 6532-2.1991	Plug Type 15	3P+N+PE	250/400 V, 10 A																								
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SEV 5933-2.1998	Plug Type 21	L+N	250 V, 16 A																								
SEV 5934-2.1998	Plug Type 23	L+N+PE	250 V, 16 A																								
3.2.1.1	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.		N/A																								
3.2.1.1	In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A																								

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In the United Kingdom , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.1.1	In Ireland , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.		N/A
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that ○ is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and ○ has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and ○ is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1	In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		N/A
6.1.2.2	In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		P
7.2	In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3	In Norway and Sweden, there are many buildings where the screen of the coaxial cable is normally not connected to the earth in the building installation.		N/A
7.3	In Norway, for installation conditions see EN 60728-11:2005.		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	A-DEVIATIONS (informative)		
1.5.1	Sweden (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.		N/A
1.5.1	Switzerland (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.) Add the following: NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.2.1	Denmark (Heavy Current Regulations) Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text: Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket  eller  If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: “For tilslutning af de øvrige ledere, se medfølgende installationsvejledning.”		N/A
1.7.2.1	Germany (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2). If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.		N/A
1.7.5	Denmark (Heavy Current Regulations) With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.		N/A
1.7.13	Switzerland (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries) Annex 2.15 of SR 814.81 applies for batteries.		N/A
5.1.7.1	Denmark (Heavy Current Regulations, Chapter 707, clause 707.4) TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹	
Plastic enclosure	Guangzhou Kingfa	JH830	V-0, 80°C	UL 94	UL	
Indicator plastic cover	SABIC INNOVATIVE PLASTICS US L L C	943A (f1)	V-0, 130°C	UL 94	UL	
(Alternate)	BAYER MATERIALSCIENCE L L C	6555 (f1)	V-0, 125°C	UL 94	UL	
Insulating material of DC input terminal	BAYER MATERIALSCIENCE L L C	6555 (f1)	V-0, 125°C	UL 94	UL	
PCB	Various	Various	V-0, Min. 130°C	UL 94	UL	
DC/DC converter 02280777	Nemic-Lambda	PAH350S48-28/T	Input: 36-75VDC, 12.5A; Output: 28VDC, 12.5A	EN 60950-1 UL 60950-1	BSi, UL	
(Alternate)	EMERSON	AVE350-48S28	Input: 36-75VDC, 12A; Output: 28VDC, 12.5A	UL 60950-1 EN 60950-1	TUV, UL	
(Alternate)	COSEL	CBS3504828-XDOS	Input: 36-75VDC, 10.8A; Output: 28VDC, 12.5A	EN 60950-1 UL 60950-1	TUV, UL	
(Alternate)	BEIJING DESIGN TECHNOLOGY CO LTD	HDR-L35028SC-CG5	Input: 36-75VDC; Output: 28VDC, 12.5A	UL 60950-1	UL	
(Alternate)	LUCKY VALLEY TECHNOLOGY (SHENZHEN) CO LTD	LVTH350S4828	Input: 36-75VDC; Output: 28VDC, 12.5A	UL 60950-1	UL	
Fuse F500 19040038	LITTELFUSE	0218015.MXP	15A, 250V	UL 248	UL	
(Alternate)	CONQUER	UTE015	15A, 250V	UL 248	UL	
Laser diode 34060286	Various	Various	850nm, -2.5dBm, Class 1 laser product	EN 60950-1 UL 60950-1 EN 60825-1 EN 60825-2	TUV UL	

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Optical module 34060324	Various	Various	1550nm, 5.0dBm, Class 1 laser product	EN 60950-1 UL 60950-1 EN 60825-1 EN 60825-2	TUV UL
Material of metal enclosure and metal input connector box	Shenzhen Tairisheng	--	Die cast aluminum (YL102) with outdoor light grey orange peel powder (L128) JL411CZ	EN 60950-22 subclause 8.3	Tested in equipment
(Alternate)	Shenzhen Tairisheng	--	Die cast aluminum (YL102) with outdoor white grey orange peel powder (L108) AD6970483-C	EN 60950-22 subclause 8.3	Tested in equipment
(Alternate)	Hongfujin Precision Industry (shenzhen) Co., Ltd.	--	Die cast aluminum (YL102) with outdoor orange peel powder (L108) JI418Z	EN 60950-22 subclause 8.3	Tested in equipment
(Alternate)	Hongfujin Precision Industry (shenzhen) Co., Ltd.	--	Die cast aluminum (YL102) with outdoor orange peel powder (L128) JL411Z	EN 60950-22 subclause 8.3	Tested in equipment
(Alternate)	Shenzhen Jiansheng Precision Hardware Co., Ltd.	--	Die cast aluminum (YL102) with colorless chemical conversion + outdoor type powder coating (L128) JL411CZ	EN 60950-22 subclause 8.3	Tested in equipment
(Alternate)	Shenzhen Jiansheng Precision Hardware Co., Ltd.	--	Die cast aluminum (YL102) with colorless chemical conversion + outdoor type powder coating (L108) JI418C	EN 60950-22 subclause 8.3	Tested in equipment

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
(Alternate)	Grand Technologies (ShenZhen) Ltd.	--	Die cast aluminum (YL102) with outdoor kinkle powder coating	EN 60950-22 subclause 8.3	Tested in equipment
Gasket	Shenzhen Xinhetai Rubber Products Co., Ltd.	TSE260-3U	Silicone rubber	EN 60950-22 Annex D	Tested in equipment
(Alternate)	Shenzhen Xinhetai Rubber Products Co., Ltd.	TSE260-5U+7U	Silicone rubber	EN 60950-22 Annex D	Tested in equipment
¹⁾ An asterisk indicates a mark which assures the agreed level of surveillance					
Supplementary information:					

1.6.2	TABLE: Electrical data (in normal conditions)						P
U (V)	I (A)	I rated (A)	P (W)	Fuse #	I fuse (A)	Condition/status	
Tested with 1800MHz working frequency:							
-36VDC	7.50	--	280	--	--	Maximum normal load	
-48VDC	5.51	7.0	272	--	--	Maximum normal load	
-57VDC	4.66	--	271	--	--	Maximum normal load	
Tested with 900MHz working frequency:							
-36VDC	7.01	--	264	--	--	Maximum normal load	
-48VDC	5.24	11	258	--	--	Maximum normal load	
-57VDC	4.44	--	256	--	--	Maximum normal load	
Supplementary information:							

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						N/A
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Supplementary information:							

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
2.10.5	TABLE: Distance through insulation measurements				N/A
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)
Supplementary information:					

4.3.8	TABLE: Batteries								N/A		
The tests of 4.3.8 are applicable only when appropriate battery data is not available										N/A	
Is it possible to install the battery in a reverse polarity position?										N/A	
	Non-rechargeable batteries			Rechargeable batteries							
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging			
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.		
Max. current during normal condition											
Max. current during fault condition											
Test results:										Verdict	
- Chemical leaks										N/A	
- Explosion of the battery										N/A	
- Emission of flame or expulsion of molten metal										N/A	
- Electric strength tests of equipment after completion of tests										N/A	
Supplementary information:											

IEC/EN 60950-1								
Clause	Requirement + Test				Result - Remark		Verdict	
4.5	TABLE: Thermal requirements						P	
	Supply voltage (V)	-36VDC		-57VDC		—		
	Ambient T _{min} (°C)	50.0		50.0		—		
	Ambient T _{max} (°C)	50.0		50.0		—		
Maximum measured temperature T of part/at::		T (°C)				Allowed T _{max} (°C)		
RV5005 of EUT		76.9		84.4		85		
L5001 winding of EUT		93.5		125.7		130		
T5000 winding of EUT		79.7		87.5		90		
T5000 core of EUT		80.3		87.8		90		
IC U10 of EUT		83.5		85.4		130		
L1 winding on DC converter U5012 of EUT		112.7		99.0		130		
DC input connector of EUT		71.9		74.6		85		
Top enclosure of EUT		95.3		97.2		*		
Supplementary information:								
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
-		-	-	-	-	-	-	-
Supplementary information:								
- * Warning symbol (60417-1-IEC-5041) used for hot surface.								

4.5.5	TABLE: Ball pressure test of thermoplastic parts			N/A
	Allowed impression diameter (mm):	≤ 2 mm		—
Part		Test temperature (°C)	Impression diameter (mm)	
Supplementary information:				

4.7	TABLE: Resistance to fire					P
Part		Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
PCB		Various	Various	-	V-0	UL
Supplementary information:						

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
DC input to earthed metal enclosure		DC	1002V	No
Supplementary information:				

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)				24	—
	Power source for EUT: Manufacturer, model/type, output rating				--	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
DC input polarity	Reversed polarity	-48VDC	5 min.	--	--	No input current. No hazards observed.
EMI Choke	Short-circuited	-48VDC	5 min.	F500	>34.5A	Fuse F500 opened immediately, no hazards observed.
Supplementary information:						

END OF THE REPORT

Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to.....: EN 60950-1:2006 + A11:2009			
Attachment Form No.....: EU_GD_IEC60950_1A			
Attachment Originator SGS Fimko Ltd			
Master Attachment Date (2009-09)			
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EN 60950-1:2006/A11:2009 – CENELEC COMMON MODIFICATIONS

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications (EN))			
Clause	Requirement + Test	Result - Remark	Verdict
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations		P
General	Delete all the “country” notes in the reference document according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6 2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2		P

Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC		P
1.7.2.1	Add the following NOTE: NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss		N/A
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;		N/A

Attachment No. 1

IEC60950_1A - ATTACHMENT									
Clause	Requirement + Test	Result - Remark	Verdict						
	c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.								
2.7.2	This subclause has been declared 'void'.		N/A						
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A						
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: <table><tr><td>Up to and including 6 </td><td>0,75 ^{a)} </td></tr><tr><td>Over 6 up to and including 10 </td><td>(0,75) ^{b)} 1,0 </td></tr><tr><td>Over 10 up to and including 16 </td><td>(1,0) ^{c)} 1,5 </td></tr></table> In the conditions applicable to Table 3B delete the words "in some countries" in condition ^{a)}. In NOTE 1, applicable to Table 3B, delete the second sentence.	Up to and including 6	0,75 ^{a)}	Over 6 up to and including 10	(0,75) ^{b)} 1,0	Over 10 up to and including 16	(1,0) ^{c)} 1,5		N/A
Up to and including 6	0,75 ^{a)}								
Over 6 up to and including 10	(0,75) ^{b)} 1,0								
Over 10 up to and including 16	(1,0) ^{c)} 1,5								
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: <table><tr><td>Over 10 up to and including 16 </td><td>1,5 to 2,5 </td><td>1,5 to 4 </td></tr></table> Delete the fifth line: conductor sizes for 13 to 16 A	Over 10 up to and including 16	1,5 to 2,5	1,5 to 4		N/A			
Over 10 up to and including 16	1,5 to 2,5	1,5 to 4							
4.3.13.6	Add the following NOTE: NOTE Z1 Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		P						

Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 $\mu\text{Sv/h}$ (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		—
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1	In Finland , Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
1.5.9.4	In Finland , Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A

Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"		N/A

Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag" In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: "Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)." NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): "Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplest utstyr – og er tilkoplest et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet." Translation to Swedish: "Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet."		N/A

Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.		P
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A
3.2.1.1	In Switzerland , supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A		N/A

Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A		N/A
3.2.1.1	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.		N/A
3.2.1.1	In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A

Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In the United Kingdom , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.1.1	In Ireland , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.		N/A
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A

Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that ○ is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and ○ has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and ○ is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A

Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1	In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.		N/A
	It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		N/A



Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.2	In Finland, Norway and Sweden , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		P
7.2	In Finland, Norway and Sweden , for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3	In Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A
7.3	In Norway , for installation conditions see EN 60728-11:2005.		N/A

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN). A-DEVIATIONS (informative)		—
1.5.1	Sweden (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.		N/A
1.5.1	Switzerland (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.) Add the following: NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A

Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	Denmark (Heavy Current Regulations) Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text: Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket  eller  If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning."		N/A
1.7.2.1	Germany (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2). If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.		N/A
1.7.5	Denmark (Heavy Current Regulations) With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.		N/A
1.7.13	Switzerland (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries) Annex 2.15 of SR 814.81 applies for batteries.		N/A
5.1.7.1	Denmark (Heavy Current Regulations, Chapter 707, clause 707.4) TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.		N/A

Attachment No. 1

IEC60950_1A - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Note: Before placing the products in the different countries, the manufacturer must ensure that:

1. Operating Instructions, Ratings Labels and Warnings Labels written in an Accepted or Official Language of the county in question.
2. The equipment complies with the National Standards and/or Electrical Codes of the country in question.



Attachment No. 2

National and Group Differences for IEC 60950-1 2nd Ed. as per CB Bulletin

Countries Included: See overview on
following page

Attachment contains

Cover page:	1 page
National and Group Differences:	34 pages
Total:	35 pages

Explanation for Abbreviations:

Possible Verdicts: **P** = Pass, **F** = Fail, **N/A** = Not Applicable

Remarks:

Throughout this report, a point is used as the decimal separator.

COUNTRIES				
Country	Group differ.	National differ.	National standard	Tested
AT Austria OVE	Yes Yes	- -	EN 60950-1:2006	Yes
AU Australia SAI Global	- -	- -		-
Belarus BELLIS	- -	- -		-
BE Belgium SGS-CEBEC	Yes Yes	- -	EN 60950-1:2006	Yes
BR Brazil TÜV RHEINLAND-UCIEE Associação NCC	- - -	- - -		-
CA Canada CSA ULC ITS N.A. QPS	- - - - -	Yes Yes Yes Yes Yes	CAN/CSA C22.2 NO. 60950-1-07 UL60950-1	Yes
CH Switzerland ELECTROSUISSE	Yes Yes	Yes Yes	SN EN 60950-1:2006	Yes
CN China CQC	- -	- -		-
CZ Czech Republic EZU	Yes Yes	- -	EN 60950-1:2006	Yes
DE Germany VDE TÜV RHEINLAND TÜV SÜD PS TÜV NORD SLG LGA Eurofins PS	Yes Yes Yes Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes Yes Yes Yes	DIN EN 60950-1 (VDE0805-1)	Yes
DK Denmark UL International Demko A/S	Yes Yes	Yes Yes	DS/EN 60950-1: 2006 and DS/EN 60950-1/A11:2009	Yes
ES Spain AENOR	Yes Yes	Yes Yes	EN 60950-1:2006	Yes
FI Finland SGS FIMKO	Yes Yes	Yes Yes	EN 60950-1: 2006	Yes
FR France LCIE	Yes Yes	- -	EN 60950-1:2006	Yes
GB United Kingdom BSI Intertek TRaC	Yes Yes Yes Yes	Yes Yes Yes Yes	EN 60950-1:2006	Yes
HU Hungary	Yes	-	EN 60950-1:2006	Yes

COUNTRIES				
Country	Group differ.	National differ.	National standard	Tested
MEEI	Yes	-		
IL Israel SII	- -	- -		-
IE Ireland ETCI	Yes Yes	Yes Yes		-
IT Italy IMQ S.p.a	Yes Yes	- -	EN 60950-1:2006	Yes
JP Japan JET JQA TUV Japan UL Japan	- - - - -	- - - - -		-
KR Korea KTL KETI ERI	- - - -	Yes Yes Yes Yes	K 60950-1	Yes
NL Netherlands KEMA	Yes Yes	- -	EN 60950-1:2006	Yes
NO Norway NEMKO	Yes Yes	Yes Yes	EN 60950-1:2006	Yes
PL Poland PCBC PREDOM-OBR	Yes Yes Yes	- - -	EN 60950-1:2006	Yes
SE Sweden Intertek SEMKO	Yes Yes	Yes Yes	EN 60950-1:2006	Yes
SG Singapore TÜV SÜD PSB ITS Singapore	- - -	- - -		-
SI Slovenia SIQ	Yes Yes	- -	SIST EN 60950-1:2006	Yes
SK Slovakia EVPU	Yes Yes	- -	EN 60950-1:2006	Yes
UA Ukraine UkrTEST	- -	- -		-
US United States of America UL MET ITS TUV RH NA	- - - - -	Yes Yes Yes Yes Yes	UL60950-1, Second Edition	Yes

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
CA			
	Canada and the United States of America have adopted a single, bi-national standard, CAN/CSA C22.2 No. 60950-1/UL60950-1, Second Edition, which is based on IEC 60950-1, Second Edition. This bi-national standard should be consulted for further details on the national conditions and differences summarized below.		—
SPECIAL NATIONAL CONDITIONS			—
	The following is a summary of the key national differences based on national regulatory requirements, such as the Canadian Electrical Code (CEC) Part and the Canadian Building Code, which are referenced in legislation and which form the basis for the rules and practices followed in electrical and building installations.		—
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.		P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		N/A
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.		N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.		N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. Flexible power supply cords are required to be compatible with Tables 11 and 12 of the CEC and Article 400 of the NEC.		N/A
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for Canadian/US wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).		N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A
4.3.13.5	Equipment with lasers is required to meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.		P
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
OTHER DIFFERENCES The following key national differences are based on requirements other than national regulatory requirements.			—
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.	(see appended table 1.5.1)	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage shall include consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		P
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
4.2.11	For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails.		N/A
4.3.2	Equipment with handles is required to comply with special loading tests.		P
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A
Annex NAF	Document (paper) shredders likely to be used in a home or home office (Pluggable Equipment Type A plug configuration) are required to comply with additional requirements, including markings/instructions, protection against inadvertent reactivation of a safety interlock, disconnection from the mains supply (via provision of an isolating switch), and protection against operator access (accessibility determined via new accessibility probe & probe/wedge).		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
CH			
1.5.1	Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury. Switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.13	Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries Annex 2.15 of SR 814.81 applies for batteries containing cadmium and mercury. Note: Ordinance relating to environmentally hazardous substances, SR 814.013 of 1986-06-09 is not longer in force and superseded by SR 814.81 of 2009-02-01 (ChemRRV).		N/A
3.2	Supply cords of portable electrical appliances having a rated current not exceeding 10 A shall be provided with a plug complying with IEC 60884-1(3.ed.) + am1, SEV 1011 and one of the following dimension sheets: - SEV 6533-2:2009 Plug type 11, L + N, 250V 10A - SEV 6534-2:2009 Plug type 12, L + N + PE, 250V 10A - SEV 6532-2:2009 Plug type 15, 3L + N + PE, 250/400V 10A Supply cords of portable electrical appliances having a rated current not exceeding 16 A shall be provided with a plug complying with IEC 60884-1(3.ed.) + am1, SEV 1011 and one of the following dimension sheets: - SEV 5933-2:2009 Plug type 21 L + N, 250 V, 16A - SEV 5934-2:2009 Plug type 23 L + N + PE, 250 V, 16A - SEV 5932-2:2009 Plug type 25 3L + N + PE, 250/400V 16A NOTE 16 A plugs are not often used in Swiss domestic installation system. See TRF template regulatory requirements Switzerland on IECEE Website R.R. TRF templates.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
DE			
1.7.2.1	Germany (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2). If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.		N/A
DK			
1.2.4.1	In Denmark, certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.7.5	In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.		N/A
1.7.5	For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		N/A
3.2.1.1	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
ES			
3.2.1.1	In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2		N/A
FI			
1.5.7.1	Resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2.		N/A
1.5.9.4	The third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text shall be as follows: “Laite on liitettävä suojakosketinpistorasiaan”		N/A



NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
5.1.7.1	TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that ○ is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in telecommunication centre; and ○ has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and ○ is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
6.1.2.1	Add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in 132400, in the sequence of tests as described in EN 132400.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
	A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in 132400, in the sequence of tests as described in EN 132400.		N/A
6.1.2.2	- The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		P
7.2	- For requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
GB			
2.6.3.3	In the United Kingdom, the current rating of the circuit shall be taken as 13 A, not 16 A.		P
2.7.1	In the United Kingdom, to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
3.2.1.1	In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.5.1	In the United Kingdom, a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the United Kingdom, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.		N/A
4.3.6	In the United Kingdom, the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1: 1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
IE			
3.2.1.1	In Ireland, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
4.3.6	In Ireland, DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A
KR			

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
1.5.101	Addition Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).		N/A
8 EMC	Addition The apparatus shall comply with the relevant CISPR standards		N/A
NO			
1.2.13.14	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1	In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.8	In Norway, due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
1.5.9.4	In Finland, Norway and Sweden, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.2.1	In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11).” NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.” Translation to Swedish: ”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”		N/A
2.2.4	In Norway, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
2.3.4	In Norway, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.10.5.13	In Finland, Norway and Sweden, there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and • has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and • is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
6.1.2.1	In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.		N/A
	A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
6.1.2.2	In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		P
7.2	In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3	In Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A
7.3	In Norway, for installation conditions see EN 60728-11:2005.		N/A
SE			
1.2.13.14	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.1	Sweden (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.		N/A
1.5.7.1	In Finland , Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.9.4	In Finland, Norway and Sweden, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
	The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.2	In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11).” NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.” Translation to Swedish: ”Utrustning som är kopplad till skyddsjord via jordtag vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”		N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.10.5.13	In Finland, Norway and Sweden, there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; STATIONARY PLUGGABLE EQUIPMENT TYPE B; STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A
6.1.2.1	In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
	A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		N/A
6.1.2.2	In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		P
7.2	In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3	In Norway and Sweden, there are many buildings where the screen of the coaxial cable is normally not connected to the earth in the building installation.		N/A
US			
SPECIAL NATIONAL CONDITIONS BASED ON FEDERAL REGULATIONS			—
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.		P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type specified in the NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings.		N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.		N/A
2.7.1	Suitable NEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC.		N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length and minimum length shall be 1.5 m. Flexible power supply cords are required to be compatible with Article 400 of the NEC.		N/A
3.2.9	Permanently connected equipment must have a suitable wiring compartment and wire bending space.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, must be suitable for U.S wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).		N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A
4.3.13.5	Equipment with lasers is required to meet the Code of Federal Regulations 21 CFR 1040.		P
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation must comply with Federal Regulations, 21 CFR 1020		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict

OTHER NATIONAL DIFFERENCES			—
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.	(see appended table 1.5.1)	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage it to include consideration of the battery charging “Float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the max. acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		P
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
4.2.11	For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails.		N/A
4.3.2	Equipment with handles is required to comply with special loading tests.		P
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC. M.2 Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A
Annex NAF	Document (paper) shredders likely to be used in a home or home office (Pluggable Equipment Type A plug configuration) are required to comply with additional requirements, including markings/instructions, protection against inadvertent reactivation of a safety interlock, disconnection from the mains supply (via provision of an isolating switch), and protection against operator access (accessibility determined via new accessibility probe & probe/wedge).		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict

GROUP DIFFERENCES

	Delete all the "country" notes in the reference document according to the following list:					P
	1.4.8	Note 2	1.5.1	Note 2 & 3	1.5.7.1	Note
	1.5.8	Note 2	1.5.9.4	Note	1.7.2.1	Note 4, 5 & 6
	2.2.3	Note	2.2.4	Note	2.3.2	Note
	2.3.2.1	Note 2	2.3.4	Note 2	2.6.3.3	Note 2 & 3
	2.7.1	Note	2.10.3.2	Note 2	2.10.5.13	Note 3
	3.2.1.1	Note	3.2.4	Note	3.2.5.1	Note 2
	4.3.6	Note 1 & 2	4.7	Note 4	4.7.2.2	Note
	4.7.3.1	Note 2	5.1.7.1	Note 3 & 4	5.3.7	Note 1
	6	Note 2 & 5	6.1.2.1	Note 2	6.1.2.2	Note
	6.2.2	Note	6.2.2.1	Note 2	6.2.2.2	Note
	7.1	Note 3	7.2	Note	7.3	Note 1 & 2
	G.2.1	Note 2	Annex H	Note 2		
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.					N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC					P
1.7.2.1	Add the following NOTE: NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss					N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES															
Clause	Requirement – Test	Result – Remark	Verdict												
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		N/A												
2.7.2	This subclause has been declared ‘void’.		N/A												
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A												
3.2.5.1	Replace “60245 IEC 53” by “H05 RR-F”; “60227 IEC 52” by “H03 VV-F or H03 VVH2-F”; “60227 IEC 53” by “H05 VV-F or H05 VVH2-F2”. In Table 3B, replace the first four lines by the following: <table><tr><td> Up to and including 6</td><td> </td><td>0,75 ^{a)}</td><td> </td></tr><tr><td> Over 6 up to and including 10</td><td> (0,75) ^{b)}</td><td>1,0</td><td> </td></tr><tr><td> Over 10 up to and including 16</td><td> (1,0) ^{c)}</td><td>1,5</td><td> </td></tr></table> In the conditions applicable to Table 3B delete the words “in some countries” in condition ^{a)}. In NOTE 1, applicable to Table 3B, delete the second sentence.	Up to and including 6		0,75 ^{a)}		Over 6 up to and including 10	(0,75) ^{b)}	1,0		Over 10 up to and including 16	(1,0) ^{c)}	1,5			N/A
Up to and including 6		0,75 ^{a)}													
Over 6 up to and including 10	(0,75) ^{b)}	1,0													
Over 10 up to and including 16	(1,0) ^{c)}	1,5													
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: <table><tr><td> Over 10 up to and including 16</td><td> 1,5 to 2,5</td><td> 1,5 to 4</td><td> </td></tr></table> Delete the fifth line: conductor sizes for 13 to 16 A.	Over 10 up to and including 16	1,5 to 2,5	1,5 to 4			N/A								
Over 10 up to and including 16	1,5 to 2,5	1,5 to 4													
4.3.13.6	Add the following NOTE: NOTE Z1 Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		P												

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 μSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A
Bibliography	Add the following standards:		—
	EN 50332-1:2000, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”		N/A
	EN 50332-2:2003, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Matching of sets with headphones if either or both are offered separately		N/A
	Add the following notes for the standards indicated: IEC 60127 NOTE Harmonized in EN 60127 series (not modified). IEC 60369-2-1 NOTE Harmonized as HD 60369-2-1:2005 (modified). IEC 60364-4-41 NOTE Harmonized as HD 384.4.41 S2:1996 (modified). IEC 60529 NOTE Harmonized as EN 60529:1991 (not modified). IEC 60664-4 NOTE Harmonized as EN 60664-4:2006 (not modified). IEC 60728-11 NOTE Harmonized as EN 60728-11:2005 (modified). IEC 60896-21 NOTE Harmonized as EN 60896-21:2004 (not modified). IEC 60896-22 NOTE Harmonized as EN 60896-22:2004 (not modified). IEC 61032 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61140 NOTE Harmonized as EN 61140:2002 (not modified). IEC 61558-1 NOTE Harmonized as EN 61558-1:2005 (not modified). IEC 61643-21 NOTE Harmonized as EN 61643-21:2001 (not modified). IEC 61643-311 NOTE Harmonized as EN 61643-311:2001 (not modified). IEC 61643-321 NOTE Harmonized as EN 61643-321:2002 (not modified). IEC 61643-331 NOTE Harmonized as EN 61643-331:2003 (not modified). IEC 61965 NOTE Harmonized as EN 61965:2003 (not modified). ISO 4892 NOTE Harmonized in EN ISO 4892 series (not modified).		P

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement – Test	Result – Remark	Verdict

	Annex ZA (normative) Normative references to international publications with their relevant European publications			—																																																										
	The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. NOTE Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies. <table> <tr> <th>Publication</th><th>Year</th><th>Title</th><th>EN/HD</th><th>Year</th></tr> <tr> <td>IEC 60065 (mod)</td><td>2001</td><td rowspan="3">Audio, video and similar electronic apparatus - Safety requirements</td><td>EN 60065</td><td>2002</td></tr> <tr> <td>A1</td><td>2005</td><td>A1</td><td>2006</td></tr> <tr> <td>A2</td><td>- ¹⁾</td><td>+ A11 A2</td><td>2008 - ¹⁾</td></tr> <tr> <td>IEC 60068-2-78</td><td>- ²⁾</td><td>Environmental testing Part 2-78: Tests - Test Cab: Damp heat, steady state</td><td>EN 60068-2-78</td><td>2001 ³⁾</td></tr> <tr> <td>IEC 60073</td><td>- ²⁾</td><td>Basic and safety principles for man-machine interface, marking and identification - Coding principles for indication devices and actuators</td><td>EN 60073</td><td>2002 ³⁾</td></tr> <tr> <td>IEC 60083</td><td>- ²⁾</td><td>Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC</td><td>-</td><td>-</td></tr> <tr> <td>IEC 60085</td><td>2004</td><td>Electrical insulation - Thermal classification</td><td>EN 60085</td><td>2004</td></tr> <tr> <td>IEC 60112</td><td>- ²⁾</td><td>Method for determining the proof and comparative tracking indices of insulating materials</td><td>EN 60112</td><td>2003 ³⁾</td></tr> <tr> <td>IEC 60216-4-1</td><td>- ²⁾</td><td>Guide for the determination of thermal endurance properties of electrical insulating materials Part 4: Ageing ovens Section 1: Single-chamber ovens</td><td>EN 60216-4-1</td><td>2006 ³⁾</td></tr> <tr> <td>IEC 60227 (mod)</td><td>Series</td><td>Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V</td><td>HD 21 ⁴⁾</td><td>Series</td></tr> <tr> <td>IEC 60245 (mod)</td><td>Series</td><td>Rubber insulated cables of rated voltages up to and including 450/750V</td><td>HD 22 ⁵⁾</td><td>Series</td></tr> </table> _____ ¹⁾ At draft stage. ²⁾ Undated reference. ³⁾ Valid edition at date of issue. ⁴⁾ The HD 21 series is related to, but not directly equivalent with the IEC 60227 series. ⁵⁾ The HD 22 series is related to, but not directly equivalent with the IEC 60245 series.			Publication	Year	Title	EN/HD	Year	IEC 60065 (mod)	2001	Audio, video and similar electronic apparatus - Safety requirements	EN 60065	2002	A1	2005	A1	2006	A2	- ¹⁾	+ A11 A2	2008 - ¹⁾	IEC 60068-2-78	- ²⁾	Environmental testing Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	2001 ³⁾	IEC 60073	- ²⁾	Basic and safety principles for man-machine interface, marking and identification - Coding principles for indication devices and actuators	EN 60073	2002 ³⁾	IEC 60083	- ²⁾	Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC	-	-	IEC 60085	2004	Electrical insulation - Thermal classification	EN 60085	2004	IEC 60112	- ²⁾	Method for determining the proof and comparative tracking indices of insulating materials	EN 60112	2003 ³⁾	IEC 60216-4-1	- ²⁾	Guide for the determination of thermal endurance properties of electrical insulating materials Part 4: Ageing ovens Section 1: Single-chamber ovens	EN 60216-4-1	2006 ³⁾	IEC 60227 (mod)	Series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V	HD 21 ⁴⁾	Series	IEC 60245 (mod)	Series	Rubber insulated cables of rated voltages up to and including 450/750V	HD 22 ⁵⁾	Series	P
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NATIONAL DIFFERENCES – GROUP DIFFERENCES						
Clause	Requirement – Test			Result – Remark		Verdict
	<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>	<u>P</u>
	IEC 60309 (mod)	Series	Plugs, socket-outlets and couplers for industrial purposes	EN 60309	Series	
	IEC 60317	Series	Specifications for particular types of winding wires	EN 60317	Series	
	IEC 60317-43	- ²⁾	Part 43: Aromatic polyimide tape wrapped round copper wire, class 240	EN 60317-43	1997 ³⁾	
	IEC 60320 (mod)	Series	Appliance couplers for household and similar general purposes	EN 60320	Series	
	IEC 60364-1 (mod)	2001	Electrical installations of buildings Part 1: Fundamental principles, assessment of general characteristics, definitions	HD 384.1 S2	2001	
	IEC 60384-14 A1	1993 1995	Fixed capacitors for use in electronic equipment Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains	EN 132400 ⁶⁾	1994	
	IEC 60417	Data-base	Graphical symbols for use on equipment	-	-	
	IEC 60664-1 + A1 + A2	1992 2000 2002	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	EN 60664-1	2003	
	IEC 60695-2-11	- ²⁾	Fire hazard testing Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001 ³⁾	
	IEC 60695-2-20	- ²⁾	Part 2-20: Glowing/hot-wire based test methods - Hot-wire coil ignitability - Apparatus, test method and guidance	-	-	
	IEC 60695-10-2	- ²⁾	Part 10-2: Guidance and test methods for the minimization of the effects of abnormal heat on electrotechnical products involved in fires - Method for testing products made from non-metallic materials for resistance to heat using the ball pressure test	EN 60695-10-2	2003 ³⁾	
	IEC 60695-11-3	- ²⁾	Part 11-3: Test flames - 500 W flames - Apparatus and confirmational test methods	-	-	
	IEC 60695-11-4	- ²⁾	Part 11-4: Test flames - 50 W flames - Apparatus and confirmational test methods	-	-	
	IEC 60695-11-10 A1	- ²⁾	Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10 A1	1999 ³⁾ 2003 ³⁾	
	⁶⁾ EN 132400, <i>Sectional Specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains (Assessment level D)</i> , and its amendments are related to, but not directly equivalent to IEC 60384-14. They are superseded by EN 60384-14:2005, which is based on IEC 60384-14:2005.					

NATIONAL DIFFERENCES – GROUP DIFFERENCES						
Clause	Requirement – Test			Result – Remark		Verdict
	<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>	<u>P</u>
	IEC 60695-11-20 A1	- ²⁾	Part 11-20: Test flames - 500 W flame test methods	EN 60695-11-20 A1	1999 ³⁾ 2003 ³⁾	
	IEC 60730-1 (mod) A1	1999 2003	Automatic electrical controls for household and similar use Part 1: General requirements	EN 60730-1 A1 + A12 + A13 + A14 + A16	2000 2004 2003 2004 2005 2007	
	A2	2007		A2	2008	
	IEC 60747-5-5	2007	Semiconductor devices - Discrete devices Part 5-5: Optoelectronic devices - Photocouplers	EN 60747-5-5	- ¹⁾	
	IEC 60825-1	- ²⁾	Safety of laser products Part 1: Equipment classification, requirements and user's guide	EN 60825-1	2007 ³⁾	
	IEC 60825-2	- ²⁾	Part 2: Safety of optical fibre communication systems	EN 60825-2 A1	2004 ³⁾ 2007 ³⁾	
	IEC/TR 60825-9	- ²⁾	Part 9: Compilation of maximum permissible exposure to incoherent optical radiation	-	-	
	IEC 60825-12	- ²⁾	Part 12: Safety of free space optical communication systems used for transmission of information	EN 60825-12	2004 ³⁾	
	IEC 60851-3 A1	1996 1997	Winding wires - Test methods Part 3: Mechanical properties	EN 60851-3 A1	1996 1997	
	IEC 60851-5 A1 A2	1996 1997 2004	Part 5: Electrical properties	EN 60851-5 A1 A2	1996 1997 2004	
	IEC 60851-6	1996	Part 6: Thermal properties	EN 60851-6	1996	
	IEC 60885-1	1987	Electrical test methods for electric cables Part 1: Electrical tests for cables, cords and wires for voltages up to and including 450/750 V	-	-	
	IEC 60906-1	- ²⁾	IEC System of plugs and socket-outlet for household and similar purposes Part 1: Plugs and socket-outlets 16 A 250 V a.c.	-	-	
	IEC 60906-2	- ²⁾	Part 2: Plugs and socket-outlets 15 A 125 V a.c.	-	-	
	IEC 60947-1	2004	Low voltage switchgear and control gear Part 1: General rules	EN 60947-1	2004	
	IEC 60990	1999	Methods of measurement of touch current and protective conductor current	EN 60990	1999	

NATIONAL DIFFERENCES – GROUP DIFFERENCES						
Clause	Requirement – Test			Result – Remark		Verdict
	<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>	<u>P</u>
	IEC 61051-2	1991	Varistors for use in electronic equipment Part 2: Sectional specification for surge suppression varistors	-	-	
	IEC 61058-1 (mod)	2000	Switches for appliances Part 1: General requirements	EN 61058-1 ⁷⁾	2002	
	ISO 178	- ²⁾	Plastics - Determination of flexural properties	EN ISO 178	2003 ³⁾	
	ISO 179	Series	Plastics - Determination of Charpy impact strength	EN ISO 179	Series	
	ISO 180	- ²⁾	Plastics - Determination of Izod impact strength	EN ISO 180	2000 ³⁾	
	ISO 261	- ²⁾	ISO general-purpose metric screw threads - General plan	-	-	
	ISO 262	- ²⁾	ISO general-purpose metric screw threads - Selected sizes for screws, bolts and nuts	-	-	
	ISO 527	Series	Plastics - Determination of tensile properties	EN ISO 527	Series	
	ISO 3864	Series	Safety colours and safety signs	-	-	
	ISO 4892-1	- ²⁾	Plastics - Methods of exposure to laboratory light sources Part 1: General guidance	EN ISO 4892-1	2000 ³⁾	
	ISO 4892-2	- ²⁾	Part 2: Xenon-arc sources	EN ISO 4892-2	2006 ³⁾	
	ISO 4892-4	- ²⁾	Part 4: Open-flame carbon-arc lamps	-	-	
	ISO 7000	Data- base	Graphical symbols for use on equipment - Index and synopsis	-	-	
	ISO 8256	- ²⁾	Plastics - Determination of tensile-impact strength	EN ISO 8256	2004 ³⁾	
	ISO 9772	- ²⁾	Cellular plastics - Determination of horizontal burning characteristics of small specimens subjected to a small flame	-	-	
	ISO 9773	- ²⁾	Plastics - Determination of burning behaviour of thin flexible vertical specimens in contact with a small-flame ignition source	EN ISO 9773	1998 ³⁾	
	ITU-T Recommendation K.44	- ²⁾	Resistibility tests for telecommunication equipment exposed to overvoltages and overcurrents - Basic Recommendation	-	-	
	⁷⁾ EN 61058-1:2002 includes A1:2001 to IEC 61058-1:2000.					

Note: Before placing the products in the different countries, the manufacturer must ensure that:

1. Operating Instructions, Ratings Labels and Warnings Labels written in an Accepted or Official Language of the country in question.
2. The equipment complies with the National Standards and/or Electrical Codes of the country in question.

Attachment No. 3

National Differences for IEC 60950-1 2nd Edition (2005) as per CB Bulletin and AS/NZS 60950.1 - 2011

Countries Included: See overview on
following page

Attachment contains

Cover page:	1 page
National and Group Differences:	9 pages
Total:	10 pages

Explanation for Abbreviations:

Possible Verdicts: **P** = Pass, **F** = Fail, **N/A** = Not Applicable

Remarks:

Throughout this report, a point is used as the decimal separator.



COUNTRIES				
Country	Group differ.	National differ.	National standard	Tested
AU Australia	-	Yes	AS/NZS 60950.1 - 2011	Yes
SAI Global	-	Yes		

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement - Test	Result - Remark	Verdict
AU			
	APPENDIX ZZ VARIATIONS TO IEC 60950-1, ED.2.0 (2005) FOR APPLICATION IN AUSTRALIA AND NEW ZEALAND (Normative)		—
	ZZ1 INTRODUCTION This Appendix sets out variations and additional requirements to cover issues which have not been addressed by the International Standard. These variations indicate national variations for purposes of the IECEE CB System and will be published in the IECEE CB Bulletin. ZZ2 VARIATIONS The following variations apply to the source text.		—
1.2	Insert the following between 'person, service' and 'range, rated frequency': POTENTIAL IGNITION SOURCE..... 1.2.12		P
1.2.12.201	Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows: 1.2.12.201 POTENTIAL IGNITION SOURCE Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS. NOTE 201 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE. NOTE 202 This definition is from AS/NZS 60065:2003.		P
1.5.1	1. Add the following to the end of the first paragraph: 'or the relevant Australian/New Zealand Standard'. 2. In NOTE 1, add the following after the word 'standard': 'or an Australian/New Zealand Standard'		P
1.5.2.	Add the following to the end of the first and third dash items: 'or the relevant Australian/New Zealand Standard'.		P
3.2.5.1	Modify Table 3B as follows: 1. Delete the first four rows and replace with the following:		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement - Test	Result - Remark	Verdict

RATED CURRENT of equipment A	Minimum conductor sizes		
	Nominal cross-sectional area mm ²	AWG or kcmil [cross-sectional area in mm ²] see Note 2	
Over 0.2 up to and including 3	0,5 ^a	18 [0,8]	
Over 3 up to and including 7.5	0,75	16 [1,3]	
Over 7.5 up to and including 10	(0,75) ^b	16 [1,3]	
Over 10 up to and including 16	(1,0) ^c	14 [2]	

2. Delete NOTE 1.

3. Delete Footnote ^a and replace with the following:
^a This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191).

4.1.201	Insert a new Clause 4.1.201 after Clause 4.1 as follows: 4.1.201 Display devices used for television purposes Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.		N/A
4.3.6	Delete the third paragraph and replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112, shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A
4.3.13.5	Add the following to the end of the first paragraph: ' , or AS/NZS 2211.1 '		P
4.7	Add the following new paragraph to the end of the clause: 'For alternate tests refer to Clause 4.7.201.'		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement - Test	Result - Remark	Verdict
4.7.201	Insert a new Clause 4.7.201 after Clause 4.7.3.6 as follows: 4.7.201 Resistance to fire – Alternative tests 4.7.201.1 General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames originating from inside the apparatus, or the following: (a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length. (b) The following parts which would contribute negligible fuel to a fire: -small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; -small electrical components, such as capacitors with a volume not exceeding 1 750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another. Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement - Test	Result - Remark	Verdict
	4.7.201.2 Testing of non-metallic materials Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part. 4.7.201.3 Testing of insulating materials. Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3mm of the connection. NOTE Contacts in components such as switch contacts are considered to be connections. For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:		
	Clause of AS/NZS 60695.11.5	Change	N/A
	9 Test procedure		N/A
	9.2 Application of needle-flame	Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30 s±1 s.	N/A



NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement - Test	Result - Remark	Verdict
	9.3 Number of test specimens	Replace with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall then withstand the test.	N/A
	11 Evaluation of test results	Replace with: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.	N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement - Test	Result - Remark	Verdict
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part. 4.7.201.4 Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1 - If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 2 - If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 3 - Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections. 4.7.201.5 Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE. The test is not carried out if the — -Printed board does not carry any POTENTIAL IGNITION SOURCE; -Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or -Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. Compliance shall be determined using the smallest thickness of the material. NOTE – Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement - Test	Result - Remark	Verdict
6.2.2	For Australia only, delete the first paragraph and Note, and replace with the following: In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2.		N/A
6.2.2.1	For Australia only, delete the first paragraph including the Note, and replace with the following: In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The Interval between successive impulses is 60 s and the initial voltage, U_c , is: for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and for 6.2.1 b) and 6.2.1 c): 1.5 kV. NOTE 201 – The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 – The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A
6.2.2.2	For Australia only, delete the first paragraph including the Note, and replace with the following: In Australia only, the a.c. test voltage is: for 6.2.1 a): 3 kV; and for 6.2.1 b) and 6.2.1 c): 1.5 kV. NOTE 201 – Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 – The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
7.3	Add the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or Video ports and analogue or data ports not intended to be used for telecommunications purposes.		N/A

NATIONAL DIFFERENCES – GROUP DIFFERENCES			
Clause	Requirement - Test	Result - Remark	Verdict
Annex P	Add the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification— Plugs and socket-outlets		P
Index	1.Insert the following between ‘asbestos, not to be used as insulation’ and ‘attitude see orientation’: AS/NZS 2211.1.....4.3.13.5 AS/NZS 3112.....4.3.6 AS/NZS 3191.....3.2.5.1(Table 3B) AS/NZS 60064.....4.1.201 AS/NZS 60695.2.11.....4.7.201.2, 4.7.201.3 AS/NZS 60695.11.10.....4.7.201.1, 4.7.201.5 AS/NZS 60695.11.5.....4.7.201.3 2. Insert the following between ‘positive temperature coefficient(PTC) device’ and ‘Powder’: Potential ignition source.....1.2.201, 4.7.201.3, 4.7.201.5		P

Notes: Before placing the products in the different countries, the manufacturer must ensure that:

1. Operating Instructions, Ratings Labels and Warnings Labels written in an Accepted or Official Language of the county in question.
2. The equipment complies with the National Standards and/or Electrical Codes of the country in question.



Attachment No. 4

National Differences for IEC 60950 3rd Ed. as per CB Bulletin No. 112A (2006)

Countries Included: See overview on
following page

Attachment contains

Cover page:	1 page
National and Group Differences:	15 pages
Total:	16 pages

Explanation for Abbreviations:

Possible Verdicts: **P** = Pass, **F**= Fail, **N/A**= Not Applicable

Remarks:

Throughout this report, a point is used as the decimal separator.



National & Group Differences per CB Bulletin 112A OC (2006):

IEC 60950 3rd Edition (1999) Information technology equipment
including electrical business equipment

COUNTRY	GROUP DIFFER.	NAT'L DIFFER.	NAT'L STANDARD	TESTED
UA Ukraine		YES	DSTU 4113-2001	YES
CN China	–	YES	–	YES
JP Japan	–	YES	J60950(H19)	YES



National difference according to IEC 60950, 3rd Ed. for application in Ukraine (UA) CB Bulletin No. 112A: 2006			
Clause	Requirement – Test	Result – Remark	Verdict
1.4.5	In Ukraine the NOMINAL VOLTAGE is 220 V for monophase or 380 V for three-phase supply.		N/A
1.5.8	In Ukraine the components connected between phase and earthing or between phase and neutral terminal shall be calculated for the voltage between phases.		N/A
1.7.2	In Ukraine for the APPARATUS of I CLASS the necessity of its obligatory earthing shall be indicated in the manuals.		N/A
2.3.3	In Ukraine the method b) is not used.		N/A
6.2.2	In Ukraine the both tests in 6.2.2.1 and 6.2.2.2 are applied.		N/A
6.2.2.1	In Ukraine in 6.2.1 a) is used $U_c = 3,5$ kV.		N/A
6.2.2.2	In Ukraine in 6.2.1 a) is used 3,0 kV for telephones and headsets and 2,5 kV - for other equipment and in 6.2.1 b) and c) is used 1,5 kV.		N/A
Annex N	In Ukraine in 6.2.1 a) is used 3,0 kV for telephones and headsets and 2,5 kV - for other equipment, and in 6.2.1 b) and c) is used 1,5 kV.		N/A



National difference according to IEC 60950, 3rd Ed. for application in China (CN) CB Bulletin No. 112A: 2006			
Clause	Requirement – Test	Result – Remark	Verdict
1.4.5	1.4.5 second paragraph replaced by: If the equipment is intended for direct connection to an AC MAINS SUPPLY, the tolerances on RATED VOLTAGE shall be taken as +10 % and –10 % ,unless:		N/A
1.7.1	1.7.1 fifth paragraph replaced by: When single rated voltage is given, it should be marked 220 V; when a rating range is given, the voltage range shall have a hyphen (-) between the minimum and maximum RATED VOLTAGES and should cover 220 V; When multiple RATED VOLTAGES or RATED VOLTAGE RANGES are given, they shall be separated by a solidus (/) and one of them must be 220 V and also factory default setting should be 220 V. RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or cover 50Hz, unless the equipment is designed for d.c. only;		N/A
1.7.12	1.7.12 replaced by: Instructions and equipment marking related to safety shall be written in simplified Chinese in which the equipment is to be installed.		N/A
3.2.1	3.2.1 Add at the end of the first paragraph: Plugs of apparatus which are intended for the connection of the mains supply should comply with requirements of GB1002.		N/A



National difference according to IEC 60950, 3rd Ed. for application in Japan (JP) CB Bulletin No. 112A: 2006			
Clause	Requirement – Test	Result – Remark	Verdict
1.2	Addition: Add the following terms. Equipment, Class 0I 1.2.4.101 Material, VTM 1.2.12.101		N/A
1.2.4.101	Addition: CLASS 0I EQUIPMENT: Equipment where protection against electric shock is achieved by: a) using BASIC INSULATION, and b) providing a means of connecting to the protective earthing conductor in the building wiring those conductive parts that are otherwise capable of assuming HAZARDOUS VOLTAGES if the BASIC INSULATION fails, and c) using a supply cord without earthing conductor and a plug without earthing wire although the equipment has externally an earth terminal or a lead wire for earthing. Equipment provided with a cord set having a two-pin type plug with a lead wire for earthing is also regarded as Class 0I. NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation as well as an operating part as SELV circuit.		N/A
1.2.12.1	Replace the first sentence of this Sub-Clause by: FLAMMABILITY CLASSIFICATION OF MATERIALS: The recognition of the burning behaviour of materials and their ability to extinguish if ignited. Materials are classified as in 1.2.12.2 to 1.2.12.9, and 1.2.12.101 when tested in accordance with annex A. Add the following NOTE 3: NOTE 3 - Similarly, for thin MATERIALS, VTM-0 Class materials are regarded as better than those of VTM-1 Class, and VTM-1 better than VTM-2.		P
1.2.12.101	Addition: VTM CLASS MATERIAL: Thin MATERIALS fulfil the specified conditions during the test of clause A.101 applied for materials that the test and evaluation of clauses A.6 to A.10 is difficult to enforce. Materials are classified to three classifications as VTM-0, VTM-1 and VTM-2 according to the conditions after the removal of the test flame.		P



National difference according to IEC 60950, 3rd Ed. for application in Japan (JP) CB Bulletin No. 112A: 2006			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.101	Add this sub-clause: Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following instruction shall be indicated on the visible place of the mains plug or the main body: “Provide an earthing connection” <i>Example in Japanese:</i> 必ず接地接続を行って下さい Moreover, for CLASS 0I EQUIPMENT, the following instruction shall be indicated on the visible place of the main body or written in the operating instructions: “Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.” <i>Example in Japanese:</i> 接地接続は必ず、電源プラグを電源につなぐ前に行ってください。又、接地接続を外す場合は、必ず電源プラグを電源から切り離してから行って下さい。		N/A
2.1.1.1	In the Item b) of this Sub-Clause, replace “IEC 60083” to “IEC 60083 or JIS C 8303”.		N/A
2.6.3.1	Addition: Add the following after 1st paragraph. This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.		N/A
2.6.4.1	Replacement: Replace 2nd sentence in 1st paragraph. For CLASS I EQUIPMENT with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal.		N/A
2.6.5.4	Replacement: Replace 1st sentence. Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:		N/A



National difference according to IEC 60950, 3rd Ed. for application in Japan (JP) CB Bulletin No. 112A: 2006			
Clause	Requirement – Test	Result – Remark	Verdict
2.6.101	Addition: Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external where easily visible.		N/A
3.2.5	Delete 1) in Table 3B.		N/A
4.2.8	Addition: Add the following informative remark after the last sentence. Remark - IEC 61965 is also applicable instead of IEC 60065.		N/A
4.5.1	In the right column of “Table 4A – Temperature rise limits, Part 1”, add a suffix symbol 7) to “50” (K), corresponding to “- without T – marking” in the left column, so as to become “50 7)”. Add the following to Suffix 5) of Table 4A (part one and part two). With regard to “Table 4A – Temperature rise limits, Part 1”, insulating materials complying with Japanese requirements (see Attachment below) are also acceptable. Add the following to Suffix 7) in Table 4A (part one and part two). 7) This value shall apply only to wiring or cords complying with relevant IEC standards. Others shall comply with Japanese requirements (see Attachment below).		N/A

Attachment

The insulating materials shall not be exposed to the temperature exceeding the values when the appliance is operated at rated voltage and normal operating condition.

These values may be increased by;

- 8 degrees for Duty 2 appliance, and
- 16 degrees for Duty 3 appliance.

In order to classify the appliances, following assumptions are to be used.

- Duty 1 appliances: considered to be connected to supply mains throughout the years such as refrigerators
- Duty 2 appliances: considered to be connected to be in between Duty 1 and Duty 3 such as room heaters
- Duty 3 appliances: considered to be connected to supply mains when it is operated for rather short time such as portable coffee mill.

Permissible temperature limits of insulating materials

Natural materials	
Material	Permissible temperature limit (°C)
Bituminous compound for filter	75, (105) 1)
Paper, cotton, silk, other natural fiber and wood	90, (105) 2)
Oil denatured natural resin	105
Silica powder	500
Mica (Hard)	500, (600) 3)
(Soft)	650, (850) 3)

- Notes:
- 1) Value applies to thermal insulating materials.
 - 2) Value applies to materials impregnated with varnish.
 - 3) Value in parenthesis is applied when mechanical external force is absent.



National difference according to IEC 60950, 3rd Ed. for application in Japan (JP) CB Bulletin No. 112A: 2006			
Clause	Requirement – Test	Result – Remark	Verdict

Mica splittings and untreated mica papers

Lining	Adhesive							Permissible Temperature Limit (°C)
	a	b	c	d	e	f	g	
None	X	X	X	X	X	X	X	130 155 180; 450, (700) ¹ ; 600, (800) ² 600, (700) ¹ ; 700, (850) ²
Paper	X	X	X	X				130
Polyethylene terephthalate film				X				130
Glass fabric				X	X	X		130 155 180
Polyester nonwoven fabric, Polyester woven, and Polyethylene naphthalate film				X	X			130 155
Polyamide-imide film, Aramid film, and Polymide film						X	X	155 180

a: with asphalt base

b: with natural resin or denatured natural resin base

c: with ceramic base

d: with oil-denatured synthetic resin, alkyd orthophthalate resin or cross-linked polyester base.

e: with silicon-denatured synthetic resin, isophthalate alkyd resin, telephthalate alkyd resin or epoxy resin.

f: with silicon resin.

g: inorganic

Notes: 1) value applies to hard mica-made heating substrate.

2) value applies to soft mica-made heating substrate.

Remarks: value in parenthesis is applied when mechanical external force is absent.

Organic materials (Thermosetting Resins)

Material	Permissible temperature limit (°C)
laminated melamine resin mixed with glass fiber	75, (100) ¹
moulded melamine resin mixed with: cellulose	120
inorganics	140
laminated phenol resin with: cotton fiber base	115, (85) ²
paper base	120, (70) ³
polyamide cloth base	75
inorganics	140
moulded phenol resin with: inorganics	150, (160) ¹
others	140, (150) ¹
moulded melamine phenol resin with the gravity of less than 1.55	130
moulded urea resin mixed with cellulose	90
unsaturated polyester-casting	120
laminated unsaturated polyester mixed with inorganics	140
moulded unsaturated polyester mixed with: other than organics	120
inorganic powder	140
glass fiber	155
epoxy resin-casting	120
laminated epoxy resin mixed with: inorganic	130, (140) ¹
other than inorganics	110, (90) ³
moulded epoxy resin mixed with inorganics	130
laminated diallyl phthalate resin mixed with inorganics	140
moulded diallyl phthalate resin mixed with: other than inorganics	130
inorganic powder	150
glass fiber	155
xylene resin-casting	140
polyamide-imide film	180
laminated silicone resin mixed with inorganics	180, (220) ¹



National difference according to IEC 60950, 3rd Ed. for application in Japan (JP) CB Bulletin No. 112A: 2006			
Clause	Requirement – Test	Result – Remark	Verdict

moulded silicon resins mixed with inorganics	180, (240) ⁴⁾		
polyimide film	210		
laminated polyimide	190		
polybutadiene-casting	120		
moulded polybutadiene mixed with inorganics	130		
laminated diphenyl oxide mixed with inorganics	180		

Notes: 1) Values apply to thermal insulating materials.
2) Values apply to materials with a thickness less than 0.8 mm.
3) Values apply to materials with a thickness less than 0.8 mm when treated to retard flame.
4) Values apply to materials used for thermal insulation and to seal outlets of sheathed heating wires.

Organic materials (Thermoplastic Resins)

Material	Permissible temperature limit (°C)
methacrylic resin, cellulose resin, cellulose acetate butylate resin, vulcanise, polyethylene	50
foamed polyethylene compound for insulated conductors, polyvinyl chloride	60
polyethylene compound for insulated conductors, heat-resistant polyvinyl chloride, cross-linked polyvinyl chloride compound for insulated conductors	75
cross-linked polyethylene, chlorinated polyethylene compound for insulated conductors	90
acrylonitrile acrylic rubber styrene resin, acrylonitrile chlorinate polyethylene styrene resin	55
acrylonitrile styrene resin, acrylonitrile butadiene resin, acrylonitrile butadiene chlorinated polyethylene resin	55 80
polypropylene : general	105, (85) ³⁾
: reinforced with glass fiber	110
denatured polyphenylene oxide : general	75
: reinforced with glass fiber	100
Polystyrene	50, (70) ¹⁾
polyacetal : general	100
: reinforced with glass fiber	120
polyamide : general	90
: reinforced with glass fiber	120
polycarbonate : general	110
: reinforced with glass fiber	120
polyethylene terephthalate : general	120
: reinforced with glass fiber	130
polybutylene terephthalate : general	120
: reinforced with glass fiber	135
heat resistant polyethylene terephthalate film	135
fluorinated polyvinylidene compound for insulated conductors, polychlorotrifluoroethylene (ethylene-trifluoride resin), ethylene-tetrafluoroethylene copolymer for insulated conductors	150
tetrafluoroethylene hexafluoropropylene resin	200
polytetrafluoroethylene(ethylene-tetrafluoride), perfluoroalkoxy compound for insulated conductors	250
aramide(aromatic polyamide paper)	220
Polysulfone	140, (150) ²⁾
polyethylene naphthalate	155
polyallylate : general	120
: reinforced with glass fiber	130

Notes : 1) Values apply to capacitor dielectrics.
2) Values apply to thermal insulating material
3) Values apply to materials with a thickness of less than 0.8 mm
4) Inorganic materials

Inorganic materials

Material	Permission temperature limit (°C)
glass fiber (only alkaline free)	300
lead glass	380
borosilicate glass	490
quartz glass	800
ceramic	800, (1000) ¹⁾

Note: 1) Value apply to materials used as electric heating elements



National difference according to IEC 60950, 3rd Ed. for application in Japan (JP) CB Bulletin No. 112A: 2006			
Clause	Requirement – Test	Result – Remark	Verdict

Rubber compounds

Material	Permission temperature limit (°C)
natural rubber, polyurethane rubber, ebonite	60
nitrile rubber, styrene butadiene rubber, chloroprene rubber	75
butyl rubber	80
ethylene propylene (diene) rubber, chlorosulfonated polyethylene rubber	90
silicone rubber	180, (200) ¹⁾

Note : 1) Value apply to thermal insulating material and sealing compounds for sheathed heating elements.

Sleeves, Cloth, Tapes and like

Material	Impergnat or coating	Permission temperature limit (°C)
rayon, cellulose acetate, vinylon	adhesive, oil varnish	105
paper, cotton fabric, silk fabric, polyamide, polyester fabric, polyester nonwoven fabric	oil varnish	105
polyester fabric, polyester nonwoven fabric	alkyd resin varnish	120
glass fabric	(ditto)	130
paper	Iso or terephthalate alkyd resin varnish, epoxy resin varnish, alkyd resin varnish	105
polyester fabric, polyester nonwoven fabric	(ditto)	120
glass fabric, aramide paper	Iso or terephthalate, alkyd resin varnish, epoxy resin varnish	155
	silicone resin varnish, silicone rubber	180
vulcanised fiber		105
heat resistant fiber		120

4.7.3.2	Addition: Add the following in 7th paragraph. - for thin materials, e.g., flexible printed boards, etc., used inside equipment, be of FLAMMABILITY CLASS VTM-2 or better.		P
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National difference according to IEC 60950, 3rd Ed. for application in Japan (JP) CB Bulletin No. 112A: 2006			
Clause	Requirement – Test	Result – Remark	Verdict

5.1.6 Table 5A	Replace Table 5A of this Sub-Clause by:		N/A
	Table 5A – Maximum current		
	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. ¹⁾
	ALL equipment	Accessible parts and circuits not connected to protective earth	0,25
	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75
	MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT		3,5
	STATIONARY, PLUGGABLE TYPE A		3,5
	ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7		3,5 - 5 % of input current
	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0,5
	Others		1,0
	¹⁾ If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.		
5.3.8.2	Replacement: Replace 3rd Item as follows. - BASIC INSULATION between the PRIMARY CIRCUIT and accessible conductive parts of CLASS I or 0I EQUIPMENT;		N/A
Annex A	Addition: Add the subclause A.101 with the title “Flammability tests for classifying materials VTM” and the following: Thin sheet materials shall comply with ISO 9773.		N/A
Annex G	Addition: Add the following to the Note for Table G.1. 2. In Japan, MAINS TRANSIENT VOLTAGE for equipment with a Nominal AC MAINS SUPPLY VOLTAGE of 100V is to be decided based on the column where Nominal AC MAINS SUPPLY VOLTAGE in Table G.1 is 150V.		N/A
Annex P	Addition: Add “IEC 61965:2000, Mechanical Safety for Cathode Ray Tubes”.		N/A



National difference according to IEC 60950, 3rd Ed. for application in Japan (JP)															
CB Bulletin No. 112A: 2006															
Clause	Requirement – Test	Result – Remark	Verdict												
Annex U	Replacement: Replace 2nd paragraph. This annex covers to round winding wires having diameters between 0.05 mm and 5.00 mm.		N/A												
U.2.1	Replacement: Electric strength The test sample is prepared according to IEC 60851-5:1996, 4.4.1 (for a twisted pair). The sample is then subjected to the test of 5.2.2 of this standard, with a test voltage not less than twice the appropriate voltage in table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows: - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 3000 V, or; - for REINFORCED INSULATION, 6000 V.		N/A												
U.2.2	Replacement: Flexibility and adherence Test 8 of IEC 60851-3:1996, 5.1.1, using the mandrel diameters of table U.1. The test sample is then examined in accordance with IEC 60851-3:1996, 5.1.1.4, followed by the test of 5.2.2 of this standard except applying the test voltage between the wire and the mandrel. A test voltage shall be the appropriate voltage in table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows: - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 1500 V, or; - for REINFORCED INSULATION, 3000 V. Table U.1 Mandrel diameter <table><tr><th>Nominal Conductor diameter mm</th><th>Mandrel diameter mm ± 0,2 mm</th></tr><tr><td>0,05 – 0,34</td><td>4,0</td></tr><tr><td>0,35 – 0,49</td><td>6,0</td></tr><tr><td>0,50 – 0,74</td><td>8,0</td></tr><tr><td>0,75 – 2,49</td><td>10,0</td></tr><tr><td>2,50 – 5,00</td><td>4 times of the diameter of conductor ¹⁾</td></tr></table> ¹⁾ in compliance with IEC 60317-43. The tension to be applied to the wire during winding on the mandrel is calculated from the wire diameter to be equivalent to 118 Mpa ± 10 % (118 N/mm2 ± 10 %).	Nominal Conductor diameter mm	Mandrel diameter mm ± 0,2 mm	0,05 – 0,34	4,0	0,35 – 0,49	6,0	0,50 – 0,74	8,0	0,75 – 2,49	10,0	2,50 – 5,00	4 times of the diameter of conductor ¹⁾		N/A
Nominal Conductor diameter mm	Mandrel diameter mm ± 0,2 mm														
0,05 – 0,34	4,0														
0,35 – 0,49	6,0														
0,50 – 0,74	8,0														
0,75 – 2,49	10,0														
2,50 – 5,00	4 times of the diameter of conductor ¹⁾														
U.2.3	Replacement: Replace the first paragraph with the following. Test 9 of IEC 60851-6:1996, followed by the electric strength test of 5.2.2 of this standard except applying the test voltage between the wire and the mandrel. A test voltage shall be the appropriate voltage in table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows: - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 1500 V, or; - for REINFORCED INSULATION, 3000 V.		N/A												



National difference according to IEC 60950, 3rd Ed. for application in Japan (JP) CB Bulletin No. 112A: 2006			
Clause	Requirement – Test	Result – Remark	Verdict
U.2.4	Replacement: Replace the third paragraph describing the test voltage with the following. The test voltage shall not be less than the appropriate voltage in table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows: - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 1500 V, or; - for REINFORCED INSULATION, 3000 V. It is applied between the shot and the conductor.		N/A
U.3.1	Replacement: Replace with the following. The test voltage for ROUTINE TESTING shall be the appropriate voltage in table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows: - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 1500 V r.m.s. or 2100 V peak, or; - for REINFORCED INSULATION, 3000 V r.m.s. or 4200 V peak.		N/A
U.3.2	Replacement: Replace with the following. Twisted pair samples shall be tested in accordance with IEC 60851-5:1996, 4.4.1. The minimum breakdown voltage shall not be less than twice the appropriate voltage in table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows: - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 3000 V r.m.s. or 4200 V peak, or; - for REINFORCED INSULATION, 6000 V r.m.s. or 8400 V peak.		N/A
Annex JA	Add Annex JA (Document shredding machines) Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more.		—

Technical drawing of a mechanical part, showing dimensions in millimeters.

Dimensions (mm):

- Top View:
 - Overall Diameter: 70
 - Inner Hole Diameter: 10
 - Section A-A: Radius 3.5, Diameter 10
- Front View:
 - Total Height: 154
 - Section 1 (Top): Height 30, Diameter 10
 - Section 2: Height 60, Diameter 10
 - Section 3: Height 90, Diameter 10
 - Section 4: Height 100, Diameter 10
 - Section 5: Height 135, Diameter 10
 - Section 6: Height 154, Diameter 10
 - Section 7: Height 154, Diameter 10
 - Section 8: Height 154, Diameter 10
 - Section 9: Height 154, Diameter 10
 - Section 10: Height 154, Diameter 10
 - Section 11: Height 154, Diameter 10
 - Section 12: Height 154, Diameter 10
 - Section 13: Height 154, Diameter 10
 - Section 14: Height 154, Diameter 10
 - Section 15: Height 154, Diameter 10
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 - Section 96: Height 154, Diameter 10
 - Section 97: Height 154, Diameter 10
 - Section 98: Height 154, Diameter 10
 - Section 99: Height 154, Diameter 10
 - Section 100: Height 154, Diameter 10

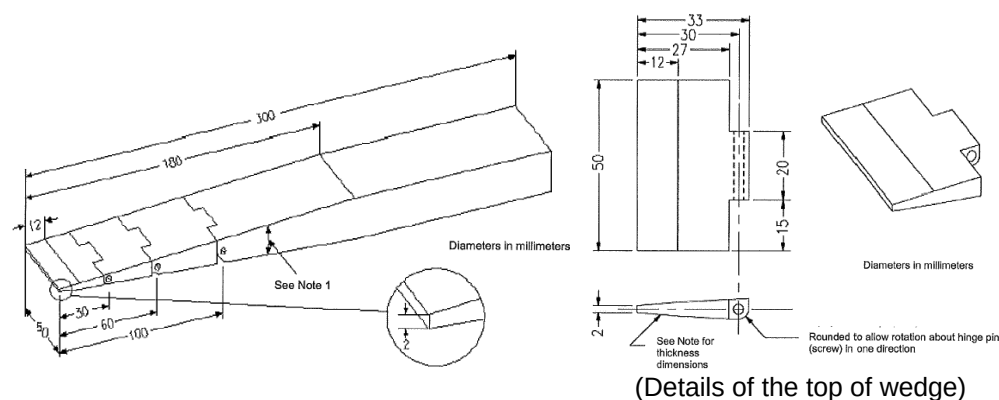
Jiangsu TÜV Product Service Ltd. Shenzhen Branch



National difference according to IEC 60950, 3rd Ed. for application in Japan (JP) CB Bulletin No. 112A: 2006			
Clause	Requirement – Test	Result – Remark	Verdict
JA.3	Isolating switch Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used. If two-position switch, the positions for “ON” and “OFF” shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for “OFF” shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols. Compliance is checked by inspection.		N/A
JA.4	Protection in operator access areas Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements. Push the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying additional force. It shall not be possible to touch hazardous moving parts with the test finger. The document shredding machine is installed as intended, and all face of MECHANICAL ENCLOSURES are subjected to this test. Before testing with the test finger, remove the parts detachable without a tool. Push the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe shall not influence the test. Before testing with the test finger, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.		N/A

National difference according to IEC 60950, 3rd Ed. for application in Japan (JP)
CB Bulletin No. 112A: 2006

Clause	Requirement – Test	Result – Remark	Verdict
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Distance from the top	Thickness of probe
0	2
12	4
180	24

Note 1 - The probe shall be of changing the thickness linearly. However, the slope shall be changed at the respective points shown in the table.

Note 2 –The allowable dimensional tolerance of the probe is +/- 0.127 mm.

Figure JA.2 Wedge-probe

Note: Before placing the products in the different countries, the manufacturer must ensure that:

1. Operating Instructions, Ratings Labels and Warnings Labels written in an Accepted or Official Language of the county in question.
2. The equipment complies with the National Standards and/or Electrical Codes of the country in question.



Attachment No.:5

Attachment contains

Cover page	1 page
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TEST REPORT (EN 60950-22:2006+A11: 2008)	18 pages
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Total:	19 pages
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TEST REPORT IEC 60 950-22 and/or EN 60 950-22 Information technology equipment Safety – Part 22: Equipment to be installed outdoors	
Report Reference No.	68.220.11.149.01
Date of issue	2011-11-04
Total number of pages	18
CB Testing Laboratory	Jiangsu TÜV Product Service Ltd. Shenzhen Branch
Address	6/F, H Hall, Century Craftwork Culture Square, No. 4001, Fuqiang Road, Futian District, 518048 Shenzhen, CHINA
Applicant's name	Huawei Technologies Co., Ltd.
Address	Administration Building, Huawei Base, Bantian, Longgang District, 518129 Shenzhen, People's Republic of China
Test specification:	
Standard	EN 60950-22:2006+A11: 2008
Test procedure	Type test
Non-standard test method	N/A
Test Report Form No.	IEC60950_22A
Test Report Form(s) Originator	The Standards Institution of Israel Ltd.
Master TRF	Dated 2007-03
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Test item description	Remote Radio Unit of GSM Distributed Base Station
Trade Mark	HUAWEI
Manufacturer	Same as applicant
Model/Type reference	RRU3004
Ratings	-48VDC, 7.0A



Testing procedure and testing location:

Testing Laboratory:

Testing location/ address.....: Jiangsu TÜV Product Service Ltd. Shenzhen Branch
6/F, H Hall, Century Craftwork Culture Square, No. 4001,
Fuqiang Road, Futian District, 518048 Shenzhen, CHINA

Tested by (name + signature).....: Hedy Li

Approved by (+ signature): Sally Zhou



Summary of testing:

Tests performed (name of test and test clause):

The submitted samples were found to comply with
the requirements of:
- EN 60950-22:2006+A11: 2008

Testing location:

Jiangsu TÜV Product Service Ltd. Shenzhen Branch
6/F, H Hall, Century Craftwork Culture Square, No.
4001, Fuqiang Road, Futian District,
518048 Shenzhen, CHINA

Summary of compliance with National Differences:

The following group and/or national deviations were considered: Austria, Belgium, Canada, Switzerland, Czech Republic, Germany, Denmark, Spain, Finland, France, United Kingdom, Hungary, Italy, Korea, Netherlands, Norway, Poland, Sweden, Slovenia, Slovakia and United States of America.

Copy of marking plate:



Test item particulars	
Temperature range.....	-40°C to +50°C
Overvoltage category.....	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV
IP protection class	IP55
Possible test case verdicts:	
- test case does not apply to the test object.....	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	2011-10-28
Date (s) of performance of tests	2011-10-28 to 2011-11-04
General remarks:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a point is used as the decimal separator. This Test Report Form is intended for the investigation of safety of equipment to be installed outdoors in accordance with IEC 60950-22. It can only be used together with the IEC 60950-1 requirements.	
General product information:	
The EUT operates in 1800MHz RF working frequency and 900MHz RF working frequency, and all TNV-1 circuits are permanently connected to earth. The equipment shall be supplied by external SELV circuits. The input tolerance of the equipment declared by the manufacturer is -36VDC to -57VDC. Reinforced insulation or double insulation must be provided to isolate DC source from AC mains supply. The maximum operating temperature is 50°C. Class 1 laser provided inside the equipment.	



EN/IEC 60950-22			
Clause	Requirement + Test	Result - Remark	Verdict

4	CONDITIONS FOR OUTDOOR EQUIPMENT		
4.1	Ambient air temperature		P
	Suitability for use at any temperature in the range specified by the manufacturer. If not specified by the manufacturer, the range is taken as -33°C to +40°C	-40°C to +50°C	P
4.2	AC mains supply		N/A
	Suitability for the highest Overvoltage Category expected in the installation location		N/A
	Components used to reduce the Overvoltage Category comply with IEC 61643-series		N/A
	Reference to installation instructions		N/A
4.3	Rise of earth potential		P
	Special earthing conditions		P
	Reference to installation instructions	Statement in installation instruction.	P

5	MARKING AND INSTRUCTIONS		
	Special installation features for protection from conditions in the OUTDOOR LOCATION (see 1.7.2 of IEC 60950-1)		P
	OUTDOOR ENCLOSURE classification according to IEC 60529 (IP Code)	IP55	P

6	PROTECTION FROM ELECTRICAL SHOCK IN AN OUTDOOR LOCATION		
6.1	Voltage limits of user-accessible parts in OUTDOOR LOCATIONS (2.2.2 and 2.2.3 of IEC 60950-1 with voltage limits of IEC60950-22)		P
	Voltages under normal conditions (V)	Only earthed metal enclosure is user-accessible conductive parts in outdoor location.	P
	Voltages under fault conditions (V)	Only earthed metal enclosure is user-accessible conductive parts in outdoor location.	P
6.2	Limited current circuits in outdoor locations		N/A
	The requirements of 2.4 of IEC60950-1 apply without change		N/A



EN/IEC 60950-22			
Clause	Requirement + Test	Result - Remark	Verdict

7	WIRING TERMINALS FOR CONNECTION OF EXTERNAL CONDUCTORS		
	The mains supply terminations powered via the normal building installation wiring are as specified in 3.3 of IEC 60950-1		P
	The mains supply terminations powered directly from the mains distribution system are as specified in IEC 60364		N/A

8	CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES		
8.1	General		P
	Protection against corrosion by use of suitable materials or by application of a protective coating		P
	Parts serving as a functional part of an OUTDOOR ENCLOSURE (e.g., dials, connectors, etc.) comply with the same environmental protection requirements as for the OUTDOOR ENCLOSURE		P
	Use of OUTDOOR ENCLOSURE to carry current during normal operation		N/A
	Connection of a conductive part of an OUTDOOR ENCLOSURE to protective earth for carrying fault currents (see 2.6 of IEC 60950-1 and 8.3 of this standard)		P
8.2	Resistance to ultra-violet radiation		N/A
	Resistance of non-metallic parts of an OUTDOOR ENCLOSURE to degradation by ultra-violet (UV) radiation	No such parts.	N/A
	Parts providing mechanical support:		N/A
	Tensile strength test (ISO 527)		N/A
	Flexural strength test (ISO 178)		N/A
	Parts providing impact resistance:		N/A
	Charpy impact test (ISO 179)		N/A
	Izod impact test (ISO 180)		N/A
	Tensile impact test (ISO 8256)		N/A
	All parts:		N/A
	Flammability classification (1.2.12 and annex A of IEC 60950-1)		N/A
8.3	Resistance to corrosion		P
8.3.1	General		P



EN/IEC 60950-22			
Clause	Requirement + Test	Result - Remark	Verdict
	Resistance of metallic parts of an OUTDOOR ENCLOSURE to the effects of water-borne contaminants		P
	Alternate method for 8.3.2-8.3.4 (IEC 61587-1)		N/A
8.3.2	Test apparatus		P
	Salt-spray test (IEC 60068-2-11)		P
	Test in a water-saturated sulphur dioxide atmosphere (water-saturated sulphur dioxide atmosphere as described in Annex A; chamber as described in ISO 3231)		P
8.3.3	Test procedure		P
8.3.4	Compliance criteria	No corrosion or corrosion <Ri1.	P
8.4	Bottoms of FIRE ENCLOSURES		P
	Comply with 4.6.2 of IEC 60950-1		P
	Bottom of FIRE ENCLOSURE of OUTDOOR EQUIPMENT mounted directly and permanently on a non-combustible surface (e.g., concrete or metal)		N/A
8.5	Gaskets		P
	If gaskets are used as the method for protection against the ingress of potential contaminants, requirements of 8.5.1 through 8.5.3 apply		P
8.5.1	General		P
8.5.2	Oil resistance	No oil or coolant used.	N/A
8.5.3	Securing means		P
9	PROTECTION OF EQUIPMENT WITHIN AN OUTDOOR ENCLOSURE		
9.1	Protection from moisture (see Table 2)	IP55	P
9.2	Protection from plants and vermin		P
9.3	Protection from excessive dust		P



EN/IEC 60950-22			
Clause	Requirement + Test	Result - Remark	Verdict

10	MECHANICAL STRENGTH OF ENCLOSURES		
10.1	General		P
10.2	Impact test (4.2.5 of IEC 60950-1)		P
	Compliance criteria:		P
	- after test the level of protection remains in accordance with 9.1 of this standard		P
	- after test the requirements of 4.2.1 of IEC 60950-1 are met		P

11	OUTDOOR EQUIPMENT CONTAINING VENTED BATTERIES		
	Adequate ventilation in the compartment housing a vented battery, where gassing is possible during normal usage or over-charging	No batteries.	N/A
	Protection against the risk of ignition of local concentrations of hydrogen and oxygen in a compartment containing both a battery and electrical components		N/A
	Hydrogen gas concentration measurement test		N/A
	Measured hydrogen gas concentration (% by volume)		—
	Max. allowed gas concentration for the mixture location in proximity to an ignition source (% by volume)		
	Max. allowed gas concentration for the mixture location not in proximity to an ignition source (% by volume)		
	Overcharging of rechargeable battery (see 4.3.8 of IEC 60950-1)		N/A

A	ANNEX A, WATER-SATURATED SULPHUR DIOXIDE ATMOSPHERE (see 8.3.2 and 8.3.3)	P
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B	ANNEX B, WATER SPRAY TEST (see 9.1)	N/A
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C	ANNEX C, ULTRAVIOLET LIGHT CONDITIONING TEST (see 8.2)		
C.1	Test apparatus.....		N/A
C.2	Mounting of test samples		N/A
C.3	Carbon-arc light-exposure apparatus		N/A
C.4	Xenon-arc light-exposure apparatus.....		N/A



EN/IEC 60950-22			
Clause	Requirement + Test	Result - Remark	Verdict

D	ANNEX D, GASKET TESTS (see 8.5)		
D.1	Gasket tests	For manufacturer: Shenzhen Xinhetai; model: TSE260-3U	P
D.2	Tensile strength and elongation tests (for gaskets that can stretch)		P
	Tensile strength (%)	114.23%	P
	Elongation (%)	99.61%	P
	Visible deterioration, deformation, melting, cracking or hardening of the material	No	P
D.3	Compression test (for gaskets with closed cell construction)		P
	Initial thickness of the specimen (mm)	4.23 / 4.19 / 4.23 mm	P
	Thickness of the specimen after test a) (mm), compression set after test a) (%)	4.16 / 4.19 / 4.20 mm 1.65 / 0 / 0.71 %	P
	Thickness of the specimen after test b) (mm), compression set after test b) (%)	4.17 / 4.11 / 4.17 mm 1.42 / 1.91 / 1.42 %	P
	Thickness of the specimen after test c) (mm), compression set after test c) (%)	4.15 / 4.15 / 4.11 mm 1.89 / 0.95 / 2.84 %	P
	Visible cracks or deterioration	No	P
D.4	Oil immersion test		N/A
	Swelling (%)		N/A
	Shrinking (%)		N/A

D	ANNEX D, GASKET TESTS (see 8.5)		
D.1	Gasket tests	For manufacturer: Shenzhen Xinhetai; model: TSE260-5U+7U	P
D.2	Tensile strength and elongation tests (for gaskets that can stretch)		P
	Tensile strength (%)	106.25 %	P
	Elongation (%)	100.86 %	P
	Visible deterioration, deformation, melting, cracking or hardening of the material	No	P
D.3	Compression test (for gaskets with closed cell construction)		P
	Initial thickness of the specimen (mm)	3.99 / 3.98 / 4.01 mm	P



EN/IEC 60950-22			
Clause	Requirement + Test	Result - Remark	Verdict

	Thickness of the specimen after test a) (mm), compression set after test a) (%)	3.97 / 3.96 / 4.00 mm 0.50 / 0.50 / 0.25 %	P
	Thickness of the specimen after test b) (mm), compression set after test b) (%)	3.96 / 3.95 / 3.99 mm 0.75 / 0.75 / 0.50 %	P
	Thickness of the specimen after test c) (mm), compression set after test c) (%)	3.93 / 3.94 / 3.94 mm 1.50 / 1.00 / 1.75 %	P
	Visible cracks or deterioration	No	P
D.4	Oil immersion test		N/A
	Swelling (%)		N/A
	Shrinking (%)		N/A

E	ANNEX E, RATIONALE		—
E.1	General		—
E.2	Electric shock		—
E.3	Energy related hazards		—
E.4	Fire		—
E.5	Mechanical hazards		—
E.6	Heat related hazards		—
E.7	Radiation		—
E.8	Chemical hazards		—
E.9	Biological hazards		—
E.10	Explosion hazards		—



EN/IEC 60950-22			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-22:2005 – COMMON MODIFICATIONS		
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions	P
General	Delete all the “country” notes in the reference document according to the following list: 4.1 Note 3 4.3 Note 8.5 Note 10.2 Note D.3 Note D.4 Note	P

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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[illegible]



EN/IEC 60950-22			
Clause	Requirement + Test	Result - Remark	Verdict

8.2	TABLE: Resistance to ultra-violet radiation		
8.2c)	Charpy impact test (ISO 179) - unnotched		N/A
Material identification (manufacturer, type designation)			—
Shape and dimensions of test samples			—
Conditioning for Set 1 of samples			—
Conditioning for Set 2 of samples (including Annex C).....			—
Test method (according to Tables 2 and 3 of ISO 179)			—
Test conditions (T °C, RH %).....			—
Set 1 (without Annex C conditioning)		Set 2 (after Annex C conditioning)	
Test sample #	Charpy impact strength (kJ/m ²)	Test sample #	Charpy impact strength (kJ/m ²)
Arithmetic mean for Set 1 (kJ/m ²).....			
Arithmetic mean for Set 2 (kJ/m ²).....			
Retention (%)			
Supplementary information:			



EN/IEC 60950-22			
Clause	Requirement + Test	Result - Remark	Verdict

8.2	TABLE: Resistance to ultra-violet radiation		
8.2d)	Charpy impact test (ISO 179) - notched		N/A
Material identification (manufacturer, type designation)			—
Shape and dimensions of test samples			—
Conditioning for Set 1 of samples			—
Conditioning for Set 2 of samples (including Annex C).....			—
Test method (according to Tables 2 and 3 of ISO 179)			—
Test conditions (T °C, RH %).....			—
Set 1 (without Annex C conditioning)		Set 2 (after Annex C conditioning)	
Test sample #	Charpy impact strength (kJ/m ²)	Test sample #	Charpy impact strength (kJ/m ²)
Arithmetic mean for Set 1 (kJ/m ²).....			
Arithmetic mean for Set 2 (kJ/m ²).....			
Retention (%)			
Supplementary information:			



EN/IEC 60950-22			
Clause	Requirement + Test	Result - Remark	Verdict

8.2	TABLE: Resistance to ultra-violet radiation		
8.2e)	Izod impact test (ISO 180) - unnotched		N/A
Material identification (manufacturer, type designation)			—
Shape and dimensions of test samples			—
Conditioning for Set 1 of samples			—
Conditioning for Set 2 of samples (including Annex C).....			—
Test method (according to Table 1 of ISO 180)			—
Test conditions (T °C, RH %).....			—
Set 1 (without Annex C conditioning)		Set 2 (after Annex C conditioning)	
Test sample #	Izod impact strength (kJ/m ²)	Test sample #	Izod impact strength (kJ/m ²)
Arithmetic mean for Set 1 (kJ/m ²).....			
Arithmetic mean for Set 2 (kJ/m ²).....			
Retention (%)			
Supplementary information:			



EN/IEC 60950-22			
Clause	Requirement + Test	Result - Remark	Verdict

8.2	TABLE: Resistance to ultra-violet radiation		
8.2f)	Izod impact test (ISO 180) - notched		N/A
Material identification (manufacturer, type designation)			—
Shape and dimensions of test samples			—
Conditioning for Set 1 of samples			—
Conditioning for Set 2 of samples (including Annex C).....			—
Test method (according to Table 1 of ISO 180)			—
Test conditions (T °C, RH %).....			—
Set 1 (without Annex C conditioning)		Set 2 (after Annex C conditioning)	
Test sample #	Izod impact strength (kJ/m ²)	Test sample #	Izod impact strength (kJ/m ²)
Arithmetic mean for Set 1 (kJ/m ²).....			
Arithmetic mean for Set 2 (kJ/m ²).....			
Retention (%)			
Supplementary information:			

8.2	TABLE: Resistance to ultra-violet radiation		
8.2g)	Tensile impact test (ISO 8256) - unnotched		N/A
Material identification (manufacturer, type designation)			—
Shape and dimensions of test samples			—
Conditioning for Set 1 of samples			—
Conditioning for Set 2 of samples (including Annex C).....			—
Test method (A or B)			—
Test conditions (T °C, RH %).....			—
Set 1 (without Annex C conditioning)		Set 2 (after Annex C conditioning)	
Test sample #	Tensile impact strength (kJ/m ²)	Test sample #	Tensile impact strength (kJ/m ²)
Arithmetic mean for Set 1 (kJ/m ²).....			
Arithmetic mean for Set 2 (kJ/m ²).....			
Retention (%)			
Supplementary information:			

8.2	TABLE: Resistance to ultra-violet radiation		
8.2h)	Tensile impact test (ISO 8256) - notched		N/A
Material identification (manufacturer, type designation)			—
Shape and dimensions of test samples			—
Conditioning for Set 1 of samples			—
Conditioning for Set 2 of samples (including Annex C).....			—
Test method (A or B)			—
Test conditions (T °C, RH %).....			—
Set 1 (without Annex C conditioning)		Set 2 (after Annex C conditioning)	
Test sample #	Tensile impact strength (kJ/m ²)	Test sample #	Tensile impact strength (kJ/m ²)
Arithmetic mean for Set 1 (kJ/m ²).....			
Arithmetic mean for Set 2 (kJ/m ²).....			
Retention (%)			
Supplementary information:			



Attachment No.:6

Attachment contains

Cover page	1 page
Photos	5 pages
Total:	6 pages

Details of: External view - Front



Details of: External view - Rear



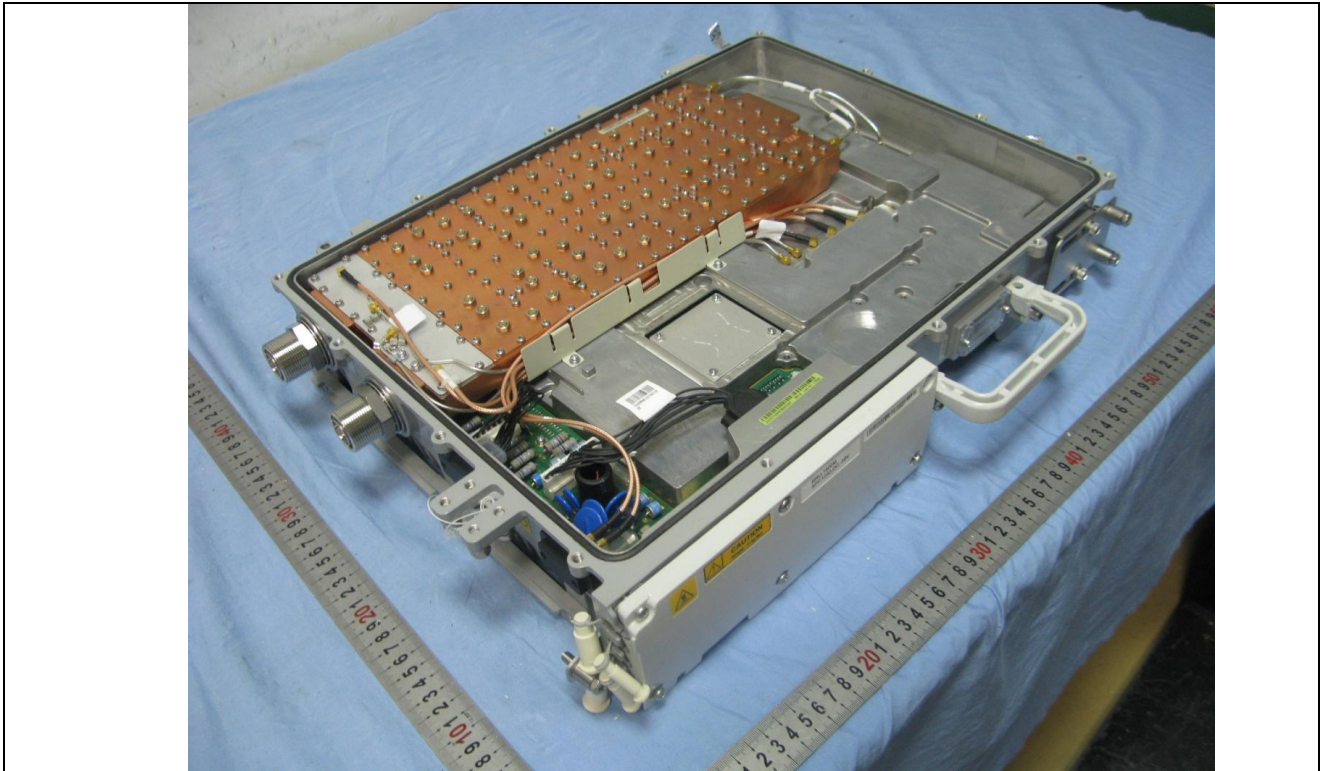
Details of: External view 1 with plastic enclosure removed



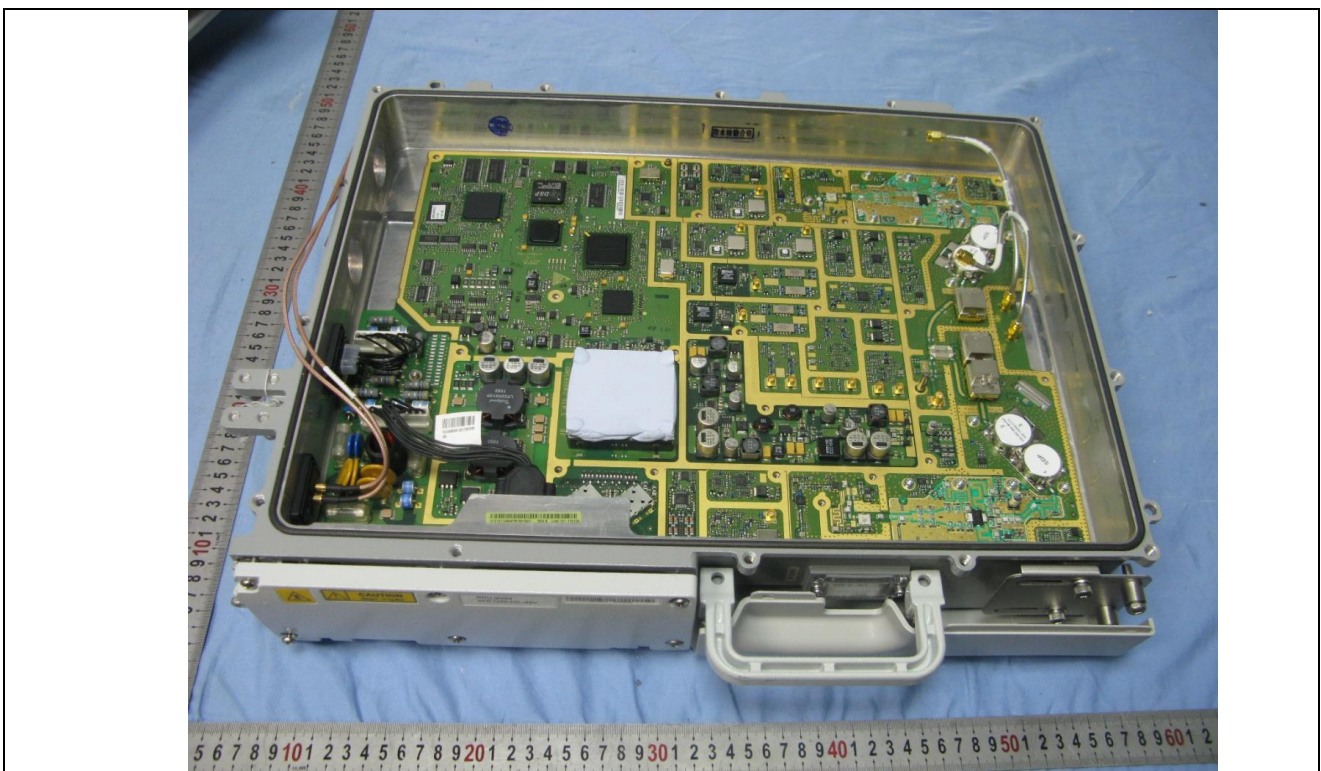
Details of: External view 2 with plastic enclosure removed



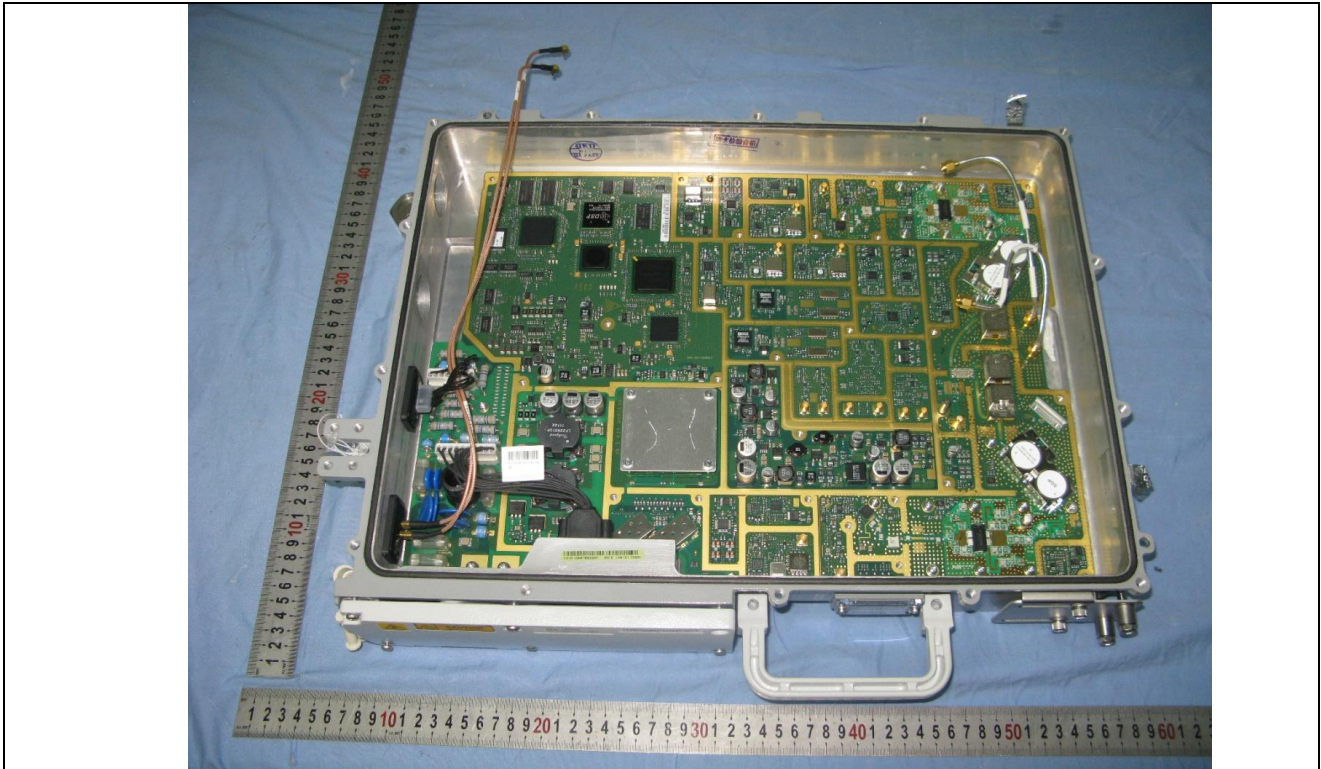
Details of: Internal view with cover removed



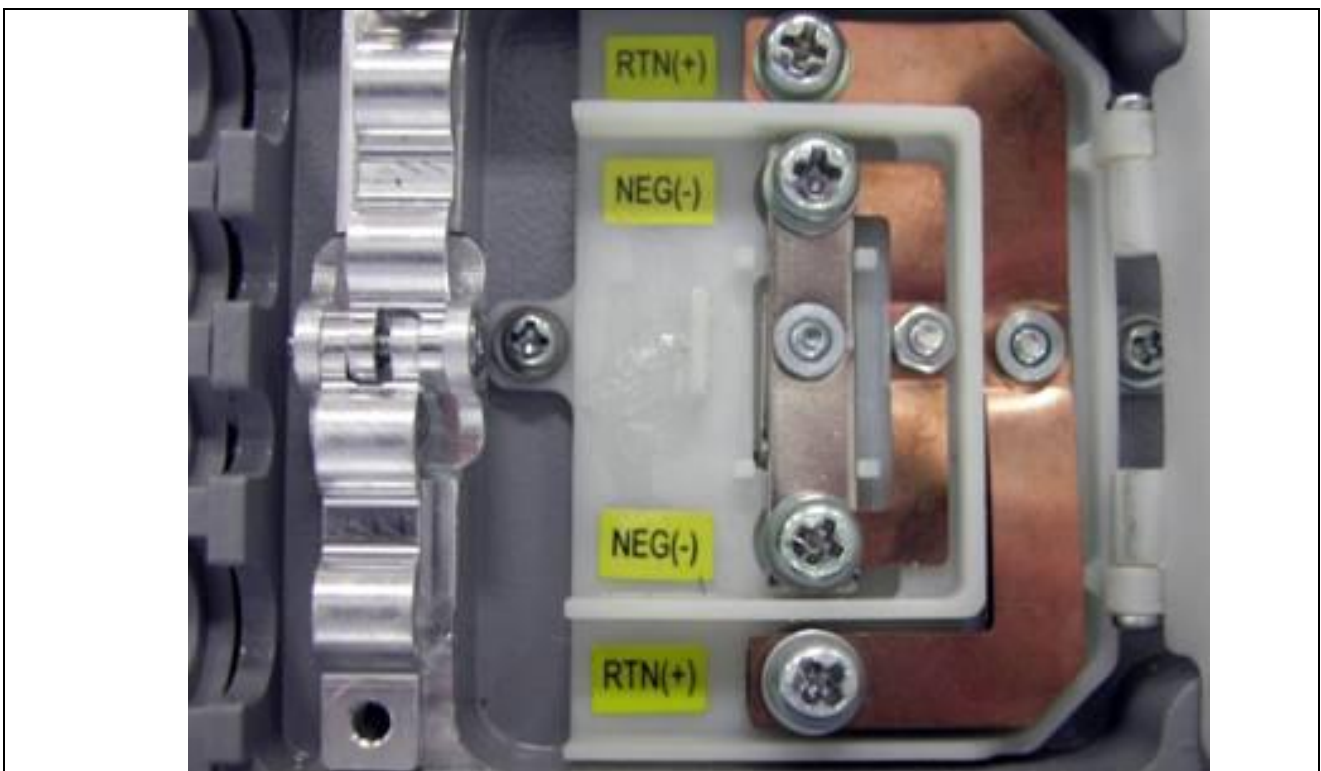
Details of: Internal view with heat sink removed (For 900MHz RF working frequency)



Details of: Internal view with heat sink removed (For 1800MHz RF working frequency)



Details of: Power input interface



Details of: Warning symbol



Details of: Protective earthing terminal

